ADDITIONAL

PIONEER®

Service Manual

ORDER NO.
ARP1125-0

STEREO DOUBLE CASSETTE TAPE DECK AMPLIFIER

DC-555Z(BK) HE, KU, HEZ

- For servicing these types, please refer to the DC-X55Z(BK) service manual (ARP1055) with the exception of this additional service manual.
- This additional service manual is applicable to the HE, KU and HEZ types.

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

The DC-555Z(BK)/HE, KU and HEZ types are the same as the DC-X55Z(BK)/HB type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		DC-X55Z(BK) HB type	DC-555Z(BK)			
			HE type	KU type	HEZ type	
	AF Assembly	GWM-466	GWM-466	GWM-466	GWM-468	
⚠	AC power cord	ADG-051	ADG-041	ADG-077	ADG-097	
⚠ ★★	FU1 Fuse (T1.25A)	AEK-509	AEK-018	. . . . .	AEK-018	
⚠ ★★	FU1 Fuse (2.5A)	. . . . .	. . . . .	AEK-123	. . . . .	
⚠ ★★	FU3 Fuse (T1.6A)	AEK-510	AEK-405	. . . . .	AEK-405	
⚠ ★★	FU3 Fuse (1.6A)	. . . . .	. . . . .	AEK-121	. . . . .	
		. . . . .	. . . . .	. . . . .	. . . . .	
⚠ ★★	FU4, 5 Fuse (T2.5A)	AEK-512	AEK-403	. . . . .	AEK-403	
⚠ ★★	FU4, 5 Fuse (4A)	. . . . .	. . . . .	AEK-125	. . . . .	
	Side pad (L)	AHA1001	AHA1019	AHA1019	AHA1019	
	Side pad (R)	AHA1002	AHA1018	AHA1018	AHA1018	
	Packing case	AHD1001	AHD1068	AHD1068	AHD1068	
	Front panel	AMB1004	AMB1060	AMB1060	AMB1060	
	Player stand (L)	AMR1060	. . . . .	. . . . .	. . . . .	
	Player stand (R)	AMR1061	. . . . .	. . . . .	. . . . .	
	Bonnet case	ANE1035	ANE1037	ANE1037	ANE1037	
	VOLUME base	AAK1001	AAK1084	AAK1084	AAK1084	
	AMP panel	AAK1002	AAK1085	AAK1085	AAK1085	
	Deck panel (A)	AAK1003	AAK1086	AAK1086	AAK1086	
	Deck panel (B)	AAK1004	AAK1087	AAK1087	AAK1087	
	Door panel (L)	AAK1005	AAK1088	AAK1088	AAK1088	
	Door panel (R)	AAK1006	AAK1089	AAK1006	AAK1089	
	Counter panel	AAK1008	AAK1090	AAK1090	AAK1090	
	Operating manual					
	(English)	ARB1001	. . . . .	ARB1001	. . . . .	
	(English, German, French, Italian)	. . . . .	ARE1010	. . . . .	. . . . .	
	(Germany)	. . . . .	. . . . .	. . . . .	ARC1011	
	Screw	ABA1003	. . . . .	. . . . .	. . . . .	
⚠	R445 Solid resistor (Lightning protector)	. . . . .	. . . . .	ACN-208	. . . . .	
⚠	AC cord stopper	AEC-882	AEC-882	AEP-113	AEC-882	
⚠ ★	T1 Power transformer					
	(220V/240V)	ATS-183	ATS-183	. . . . .	ATS-183	
	(120V)	. . . . .	. . . . .	ATS-193	. . . . .	
	EQ Assembly	Non supply	Non supply	Non supply	Non supply	
	MIC Assembly	Non supply	Non supply	Non supply	Non supply	

2. ELECTRICAL PARTS LIST

NOTES:

- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
  560Ω 56 × 10^1 561 ...... RD¼PS $\boxed{5}\boxed{6}\boxed{1}$ J
  47kΩ 47 × 10^3 473 ..... RD¼PS $\boxed{4}\boxed{7}\boxed{3}$ J
  0.5Ω 0R5 .... RN2H $\boxed{0}\boxed{R}\boxed{5}$ K
  1Ω 010 .... RS1P $\boxed{0}\boxed{1}\boxed{0}$ K
  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
  5.62kΩ 562 × 10^1 5621 .... RN¼SR $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F
- *The ⚠ mark found on some component part's indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★ .*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by " ⊙ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

AF Assembly(GWM-468)(For HEZ type)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101,IC102 OP-AMP IC	M5218P
⚠ ★★	IC401 AUDIO IC	STK4171
⚠ ★★	IC402,IC403 REGURATOR IC	μPC78M12H
★★	Q401	2SB1015
★★	Q101-Q108,Q402Q403	2SC1740S (2SC2603)
★★	Q404	2SD438
★	D401	KZL150
★	D402	RD13EB
★	D416	RD15ESB
★	D414	RD16EB
★	D417	RD5.1EB
⚠ ★	D407-D412	S5566 (11E2)
★	D102,D103,D415	1SS131
★	D403	1S2471
⚠ ★	D413	4D4B44 (RBV402)

SWITCHES AND RELAY

Mark	Symbol & Description	Part No.
⚠ ★★	S103 Push switch(POWER)	ASG1005
★★	S102 Push Switch (STEREO WIDE)	ASG1002
★★	S101 Push switch (PHONO',CD.VIDEO, TUNER,TAPE)	SUJ22226L
★	RY401	ASR-111

COILS

Mark	Symbol & Description	Part No.
	L401-L404 AF Choke coil	ATH-059

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C430,C435 (0.01μF)	ACG-019
⚠	C433 (0.01μF)	ACG1002
⚠	C431, C432 (4700μF/50V)	ACH-252
	C103,C403,C404,C405,C406	CCCSL101J50 (CCDSL101J50)
	C141,C142	CCCSL121J50 (CCDSL121J50)
	C112	CCDSL101J50
	C135,C136	CEASR15M50
	C424	CEASR47M100
	C117,C118,C121,C122,C128, C130	CEAS010M50
	C119,C120,C411,C413,C416, C426,C428	CEAS100M50
	C412,C434	CEAS101M50
	C102,C107,C111,C115,C125, C126,C131,C132,C137,C138, C401,C402	CEAS2R2M50
	C310,C317	CEAS220M16
	C407-C410,C423,C425	CEAS221M25
⚠	C427	CEAS332M25
	C106,C108,C109,C116,C129, C415,C417,C420,C421	CEAS470M25
	C414,C429	CEAS470M50
	C422	CEAS471M6

Mark	Symbol & Description	Part No.
	C123,C124	CKCYB332K50 (CKDYB332K50)
	C139,C140	CKCYB681K50 (CKDYB681K50)
	C440, C449	CKDYF473Z50
	C443,C444	CKDYB103K50
	C445,C446	CKDYB222K50
	C101,C110,C143-C152	CKDYB391K50
	C153,C154	CKDYB472K50
	C104,C113	CQMA242J50
	C441,C442	CQMA473K50
	C418,C419	CQMA473K50
	C105,C114	CQMA822J50
	C133,C134	CQSA391J50
	C447,C448	CKDYB102K50

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
⚠	R441,R442	RD1/2MFL100J
	R424,R425,R432,R437R438	RD1/2PM□ □ □J
⚠	R419,R420,R415,R413, R448,R449	RD1/4PMFL□ □ □J
⚠	R421,R422	RD1/4PMF330J
	R403-R411,R414,R416,R417, R418,R426-R430,R434	RD1/4PM□ □ □J
⚠	R412,R435	RFA1/4PL101
⚠	R433	RFA1/4PL121J
⚠	R423	RS1LMF681J
⚠	R443,R444	RS2LMF271J
⚠	R431,R436	RS2LMF4R7J
	Other resistors	RD1/8PM□ □ □J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal(OUTPUT)(2P)	AKB-093
	Terminal(INPUT,PHONO CD,VIDEO)(6P)	AKB-095
	Terminal(SPEAKER)(4P)	AKE-109
	Mini jack	AKN-034

EQ Assembly (For HEZ type)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC301,IC302 AUDIO IC	BA3812L

CAPACITORS

Mark	Symbol & Description	Part No.
	C330,C331	CCDSL101J50
	C313,C326	CEASR15M50
	C315,C328	CEASR68M50
	C308,C323	CEAS101M10
	C301,C302	CEAS4R7M50
	C309	CEAS470M25
	C305,C318	CKCYB182K50 (CKDYB182K50)
	C307,C322	CKCYB331K50 (CKDYB331K50)
	C303,C320	CKCYB391K50 (CKDYB391K50)
	C312,C325	CKCYB392K50 (CKDYB392K50)
	C304,C321	CKCYB682K50 (CKDYB682K50)
	C306,C319	CKCYX153M25 (CKDYX153M25)
	C314,C327	CKCYX183M25 (CKDYX183M25)
	C316,C329	CKCYX393M25 (CKDYX393M25)
	C311,C324	CKCYX683M25 (CKDYX683M25)

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
★	VR301 Slide variable resistor	ACU1001
	Other resistors	RD1/8PM□ □ □J

MIC Assembly (For HEZ type)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	Q202	2SA933S (JA101) (2SA1048)
★★	Q201	2SC1740S (2SC2603)

CAPACITORS

Mark	Symbol & Description	Part No.
	C202	CEASR47M50
	C204	CEAS100M50
	C206	CEAS101M25
	C205	CEAS470M25
	C203	CKCYB392K50 (CKDYB392K50)
	C207,C208	CKCYF473Z50 (CKDYF473Z50)
	C209	CKDYB102K50
	C210	CKDYB472K50

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	All resistors	RD1/8□□□J

OTHERS

Mark	Symbol & Description	Part No.
	MIC jack(MIC)	AKN-052
	Mini jack(PHONE)	AKN1001

MIC Assembly (For HEZ type)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	Q202	2SA933S (JA101) (2SA1048)
★★	Q201	2SC1740S (2SC2603)

CAPACITORS

Mark	Symbol & Description	Part No.
	C202	CEASR47M50
	C204	CEAS100M50
	C206	CEAS101M25
	C205	CEAS470M25
	C203	CKCYB392K50 (CKDYB392K50)
	C207,C208	CKCYF473Z50 (CKDYF473Z50)
	C209	CKDYB102K50
	C210	CKDYB472K50

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

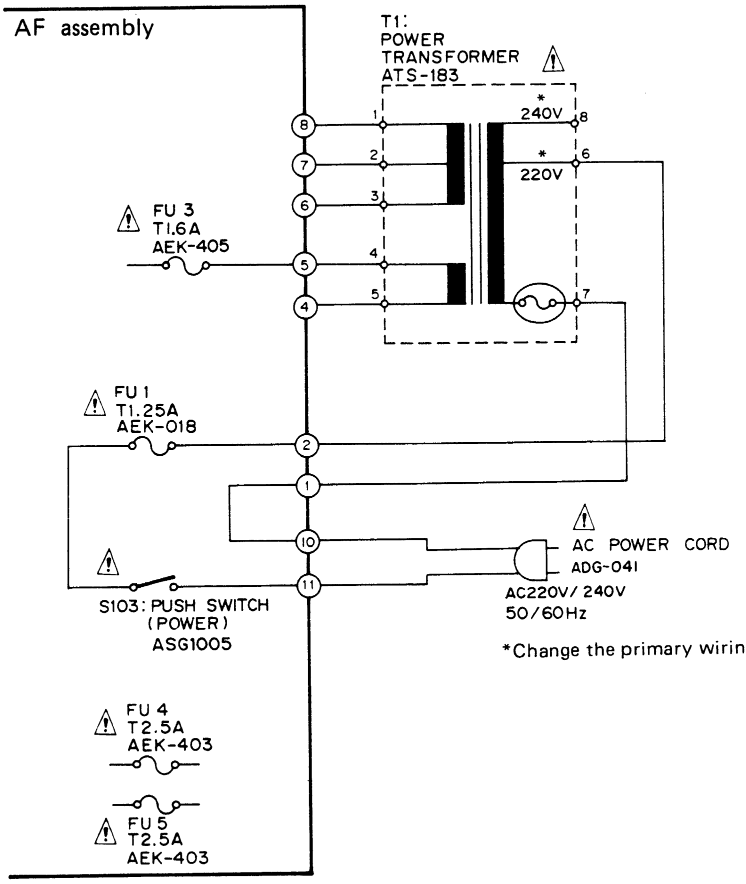
Mark	Symbol & Description	Part No.
	All resistors	RD1/8☐☐☐J

OTHERS

Mark	Symbol & Description	Part No.
	MIC jack(MIC)	AKN-052
	Mini jack(PHONE)	AKN1001

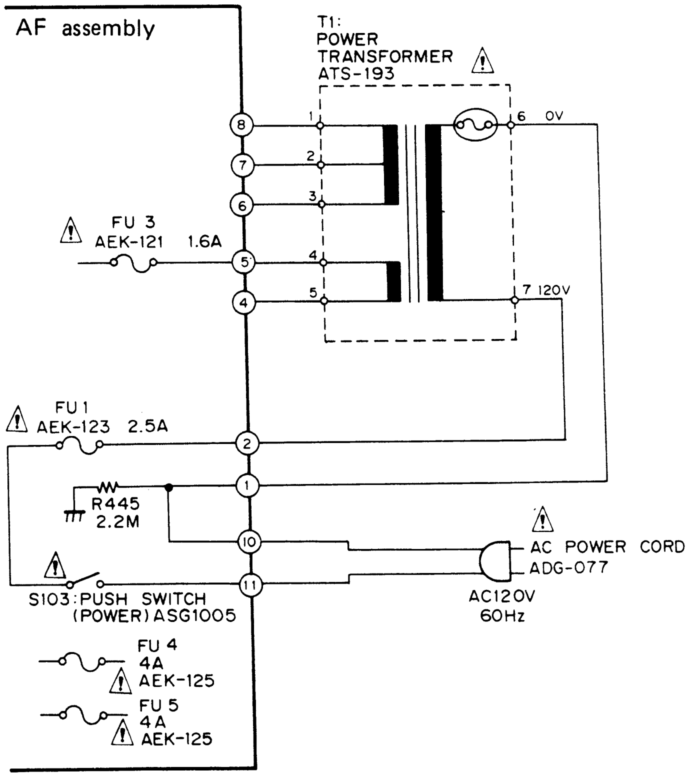
3. SCHEMATIC DIAGRAM

- **For HE type**

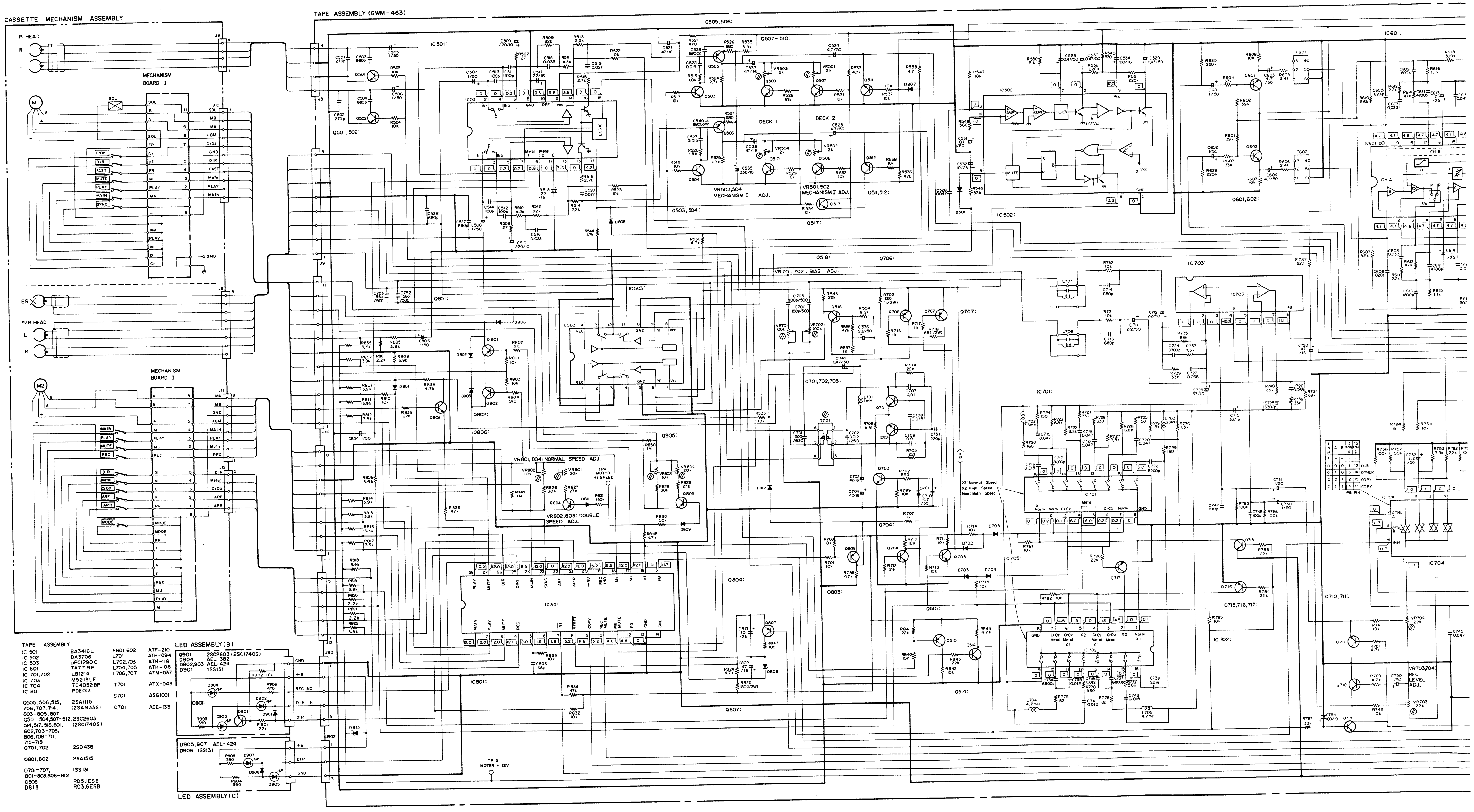

AF assembly
T1:
POWER
TRANSFORMER
ATS-183
*
240V
*
220V
1
2
3
4
5
6
7
8
FU 3
T1.6A
AEK-405
FU 1
T1.25A
AEK-018
10
11
AC POWER CORD
ADG-041
AC220V/ 240V
50/60Hz
S103: PUSH SWITCH
(POWER)
ASG1005
FU 4
T2.5A
AEK-403
FU 5
T2.5A
AEK-403

*Change the primary wiring of the power transformer.

- **For KU type**


AF assembly
T1:
POWER
TRANSFORMER
ATS-193
1
2
3
4
5
6
7
8
6 0V
7 120V
FU 3
AEK-121 1.6A
FU 1
AEK-123 2.5A
R445
2.2M
10
11
AC POWER CORD
ADG-077
AC120V
60Hz
S103: PUSH SWITCH
(POWER) ASG1005
FU 4
4A
AEK-125
FU 5
4A
AEK-125

- **For HEZ type**


1
2
3
4
5
6
A
B
C
D
CASSETTE MECHANISM ASSEMBLY
P. HEAD
MECHANISM BOARD I
SOL
ER
P/R HEAD
MECHANISM BOARD II
M1
M2
TAPE ASSEMBLY (GWM-463)
IC501:
IC502:
IC503:
IC601:
IC701:
IC702:
IC703:
IC704:
IC801:
Q501, 502:
Q503, 504:
Q505, 506:
Q507~510:
Q511, 512:
Q517:
Q518:
Q601, 602:
Q701, 702, 703:
Q704:
Q705:
Q706:
Q707:
Q710, 711:
Q715, 716, 717:
Q801:
Q802:
Q803:
Q804:
Q805:
Q806:
Q807:
DECK 1
DECK 2
VR503, 504 MECHANISM I ADJ.
VR501, 502 MECHANISM II ADJ.
VR701, 702: BIAS ADJ.
VR801, 804: NORMAL SPEED ADJ.
VR802, 803: DOUBLE SPEED ADJ.
TP4 MOTOR HI SPEED
TP5 MOTER + 12V
VR703, 704: REC LEVEL ADJ.
X1: Normal Speed
X2: High Speed
Non: Both Speed
J8
J9
J10
J11
J12
J901
J902

TAPE ASSEMBLY

IC 501	BA3416L	F601,602	ATF-210
IC 502	BA3706	L701	ATH-094
IC 503	µPC1290C	L702,703	ATH-119
IC 601	TA7719P	L704,705	ATH-108
IC 701,702	LB1214	L706,707	ATM-037
IC 703	M5218LF		
IC 704	TC4052BP	T701	ATX-043
IC 801	PDE013		
		S701	ASG1001
Q505,506,515, 706,707,714, 803-805,807	2SA1115 (2SA933S)	C701	ACE-133
Q501-504,507-512, 514,517,518,601, 602,703-705, 806,708-711, 715-718	2SC2603 (2SC1740S)		
Q701,702	2SD438		
Q801,802	2SA1515		
D701-707, 801-803,806-812	1SS131		
D805	RD5.1ESB		
D813	RD3.6ESB		

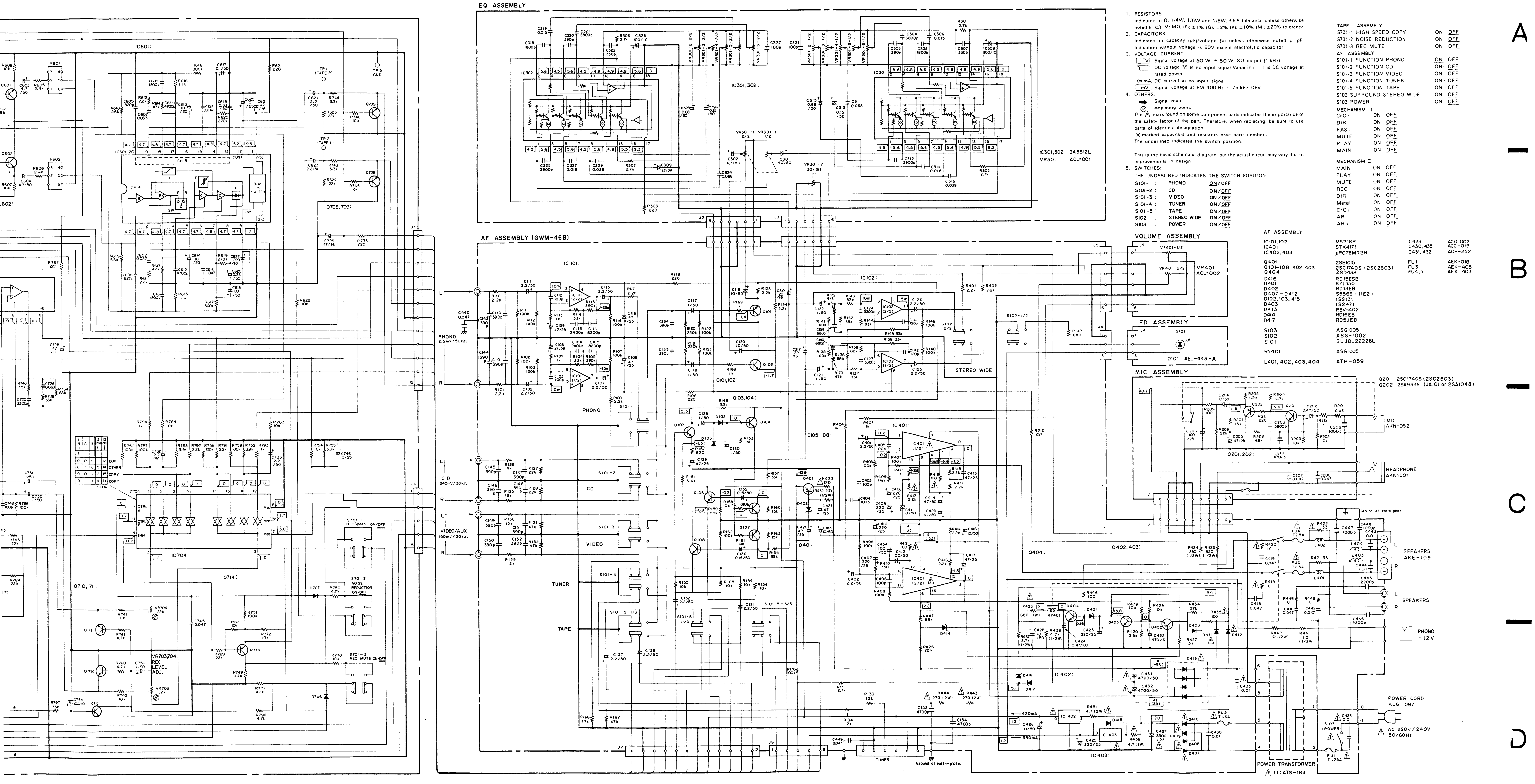
LED ASSEMBLY (B)

Q901	2SC2603 (2SC1740S)
D904	AEL-382
D902,903	AEL-424
D901	1SS131

D905,907	AEL-424
D906	1SS131

LED ASSEMBLY (C)

NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.


EQ ASSEMBLY
IC301,302
IC301,302 BA3812L
VR301 ACU1001
IC601
TP1 (TAPE R)
TP 3 GND
TP 2 (TAPE L)
Q708,709
AF ASSEMBLY (GWM-468)
IC101
IC102
IC401
IC402
IC403
PHONO 2.5mV/50kΩ
C D 240mV/30kΩ
VIDEO/AUX 150mV/30kΩ
TUNER
TAPE
STEREO WIDE
VOLUME ASSEMBLY
VR401 ACU1002
LED ASSEMBLY
D101 AEL-443-A
MIC ASSEMBLY
MIC AKN-052
HEADPHONE AKN1001
SPEAKERS AKE-109
SPEAKERS
PHONO +12 V
POWER CORD ADG-097
AC 220V/240V 50/60Hz
POWER TRANSFORMER
T1: ATS-183
S701-1 Hi-Speed ON/OFF
S701-2 NOISE REDUCTION ON/OFF
S701-3 REC MUTE ON/OFF
VR703,704: REC LEVEL ADJ.
IC704
Q710, 711
Q714
Ground of earth-plate.
A
B
C
D

1. RESISTORS:
   Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k: kΩ, M: MΩ, (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% tolerance
2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p: pF. Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE, CURRENT:
   V : Signal voltage at 50 W + 50 W, 8Ω output (1 kHz)
   : DC voltage (V) at no input signal Value in ( ) is DC voltage at rated power.
   ⇦ mA: DC current at no input signal
   mV : Signal voltage at FM 400 Hz ± 75 kHz DEV.
4. OTHERS:
   ➡ : Signal route.
   ⊘ : Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ✕ marked capacitors and resistors have parts unmbers.
   The underlined indicates the switch position.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.
5. SWITCHES:
   THE UNDERLINED INDICATES THE SWITCH POSITION

S101-1 :	PHONO	[✓ ON]/OFF
S101-2 :	CD	ON/[✓ OFF]
S101-3 :	VIDEO	ON/[✓ OFF]
S101-4 :	TUNER	ON/[✓ OFF]
S101-5 :	TAPE	ON/[✓ OFF]
S102 :	STEREO WIDE	ON/[✓ OFF]
S103 :	POWER	ON/[✓ OFF]

TAPE ASSEMBLY

S701-1 HIGH SPEED COPY	ON	[✓ OFF]
S701-2 NOISE REDUCTION	ON	[✓ OFF]
S701-3 REC MUTE	ON	[✓ OFF]

AF ASSEMBLY

S101-1 FUNCTION PHONO	[✓ ON]	OFF
S101-2 FUNCTION CD	ON	[✓ OFF]
S101-3 FUNCTION VIDEO	ON	[✓ OFF]
S101-4 FUNCTION TUNER	ON	[✓ OFF]
S101-5 FUNCTION TAPE	ON	[✓ OFF]
S102 SURROUND STEREO WIDE	ON	[✓ OFF]
S103 POWER	ON	[✓ OFF]

MECHANISM I

CrO_2	ON	[✓ OFF]
DIR	ON	[✓ OFF]
FAST	ON	[✓ OFF]
MUTE	ON	[✓ OFF]
PLAY	ON	[✓ OFF]
MAIN	ON	[✓ OFF]

MECHANISM II

MAIN	ON	[✓ OFF]
PLAY	ON	[✓ OFF]
MUTE	ON	[✓ OFF]
REC	ON	[✓ OFF]
DIR	ON	[✓ OFF]
Metal	ON	[✓ OFF]
CrO_2	ON	[✓ OFF]
AR_F	ON	[✓ OFF]
AR_R	ON	[✓ OFF]

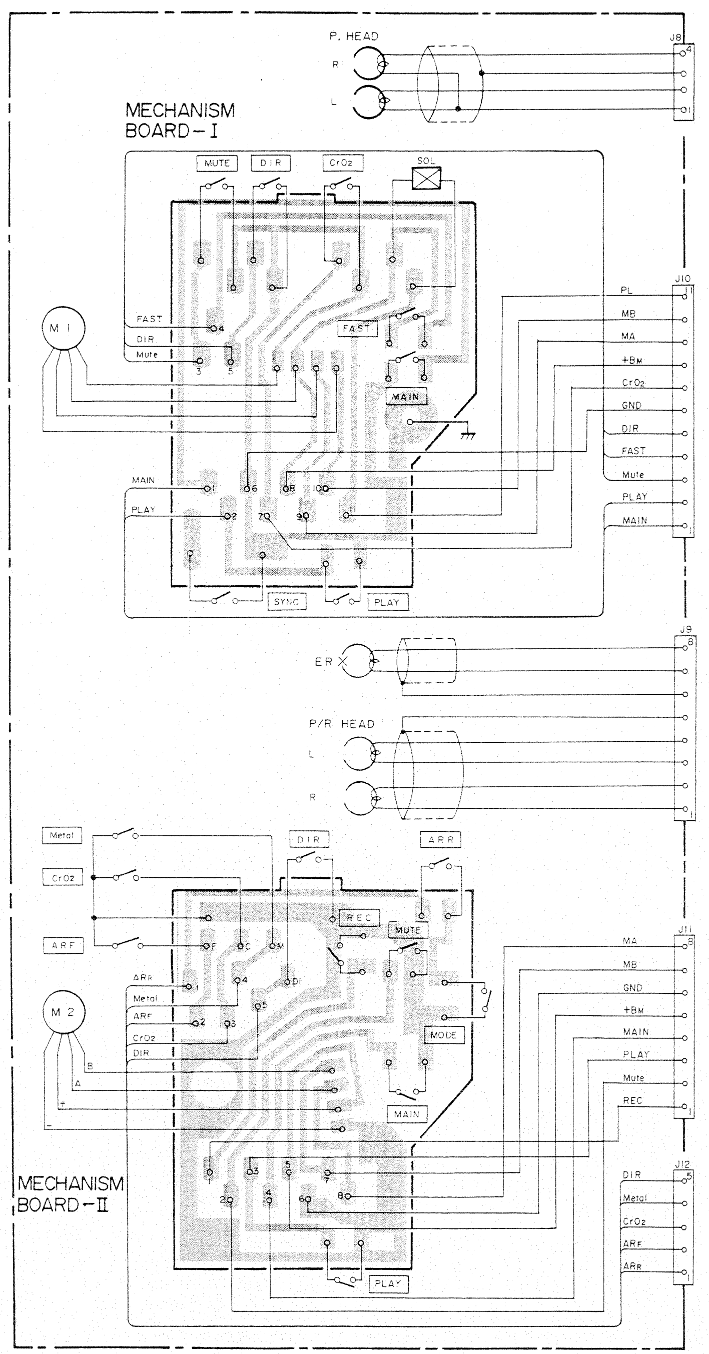
AF ASSEMBLY

IC101,102	M5218P	C433	ACG1002
IC401	STK4171	C430,435	ACG-019
IC402,403	μPC78M12H	C431,432	ACH-252
Q401	2SB1015	FU1	AEK-018
Q101–108, 402, 403	2SC1740S (2SC2603)	FU3	AEK-405
Q404	2SD438	FU4,5	AEK-403
D416	RD15ESB		
D401	KZL150		
D402	RD13EB		
D407–D412	S5566 (11E2)		
D102,103, 415	1SS131		
D403	1S2471		
D413	RBV-402		
D414	RD16EB		
D417	RD5.1EB		
S103	ASG1005		
S102	ASG-1002		
S101	SUJ8L22226L		
RY401	ASR1005		
L401, 402, 403, 404	ATH-059		

Q201 2SC1740S (2SC2603)
Q202 2SA933S (JA101 or 2SA1048)

4. P.C. BOARD PATTERNS

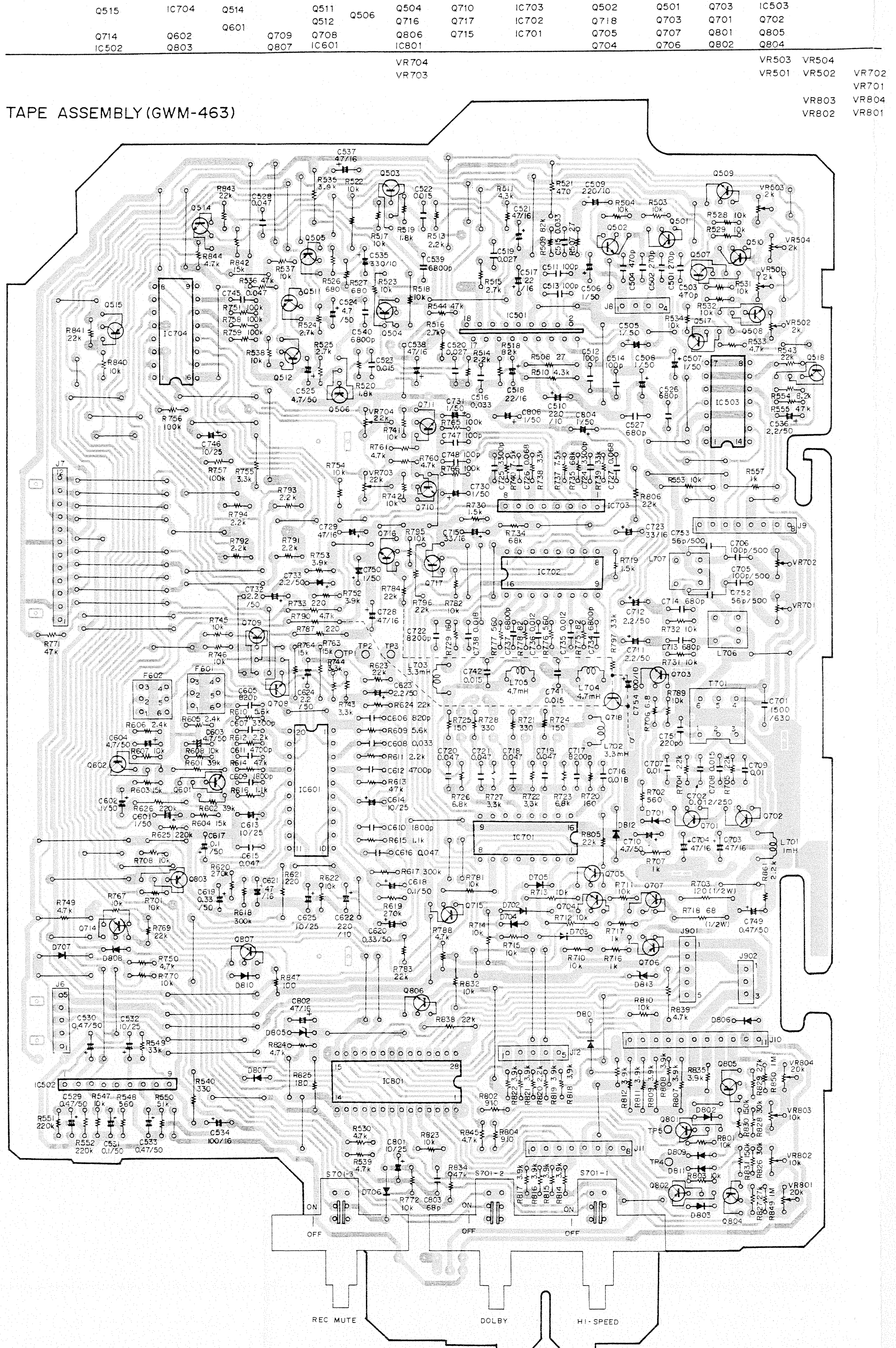
CASSETTE MECHANISM ASSEMBLY


P. HEAD
R
L
J8
MECHANISM BOARD-I
MUTE
DIR
CrO2
SOL
FAST
DIR
Mute
M1
FAST
MAIN
J10
PL
MB
MA
+BM
CrO2
GND
DIR
FAST
Mute
PLAY
MAIN
SYNC
PLAY
J9
ER
P/R HEAD
L
R
Metal
CrO2
ARF
DIR
ARR
REC
MUTE
M2
Metal
CrO2
DIR
MODE
MAIN
J11
MA
MB
GND
+BM
MAIN
PLAY
Mute
REC
MECHANISM BOARD-II
J12
DIR
Metal
CrO2
ARF
ARR
PLAY

TAPE ASSEMBLY
IC501	BA3416L	Q501 ~ Q504, Q507~ Q512, Q514,	D805 RD5.1ESB
IC502	BA3706	Q517, Q518, Q601, Q602, Q703~ Q705,	D813 RD3.6ESB
IC503	μPC1290C	Q708 ~ Q711, Q715 ~ Q718, Q806	
IC601	TA7719P	2SC603(2SC1740S)	
IC701, IC702	LB1214	Q505, Q506, Q515, Q706, Q707,	
IC703	M5218LF	Q714, Q803 – Q805, Q807	
		2SA1115(2SA933S)	
IC704	TC4052BP	Q801, Q802 2SA1515	
IC801	PDE013	Q701, Q702 2SD438	

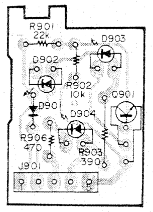
D701 ~ D707, D801~ D803, D806 ~ D812
1SS131

TAPE ASSEMBLY (GWM-463)


Q515
Q714
IC502
IC704
Q602
Q803
Q514
Q601
Q709
Q807
Q505
Q511
Q512
Q708
IC601
Q506
Q503
Q504
Q716
Q806
IC801
VR704
VR703
Q711
Q710
Q717
Q715
IC501
IC703
IC702
IC701
Q502
Q718
Q705
Q704
Q501
Q703
Q707
Q706
Q507
Q517
Q703
Q701
Q801
Q802
Q 509
Q 510
Q508
IC503
Q702
Q805
Q804
VR503
VR501
VR504
VR502
VR803
VR802
VR702
VR701
VR804
VR801
IC704
IC501
IC503
IC702
IC703
IC601
IC701
IC801
IC502
S701-3
S701-2
S701-1
ON
OFF
REC MUTE
DOLBY
HI-SPEED

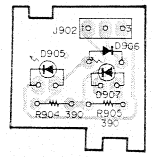
IC101, IC102	M5218P
IC402, IC403	μPC78M12H
IC401	STK4171
Q101~Q108, Q402, Q403	2SC1740S(2SC2603)
Q401	2SB1015
Q404	2SD438
D102, D103, D415	1SS131
D401, D416	KZL150
D402	RD13EB
D403	1S2471
D407 – D412	S5566 (11E2)
D413	RBV-402
D416	RD15ESB
D414	RD16EB
D417	RD5.1EB

LED ASSEMBLY(B)


R901
22k
D903
D902
R902
10k
Q901
D901
D904
R906
470
R903
390
J901

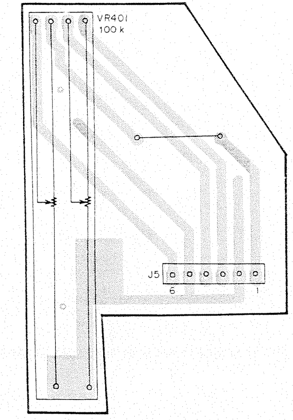
Q901	2SC2603
D901	1SS131
D902, D903	AEL-424
D904	AEL-382

LED ASSEMBLY(C)

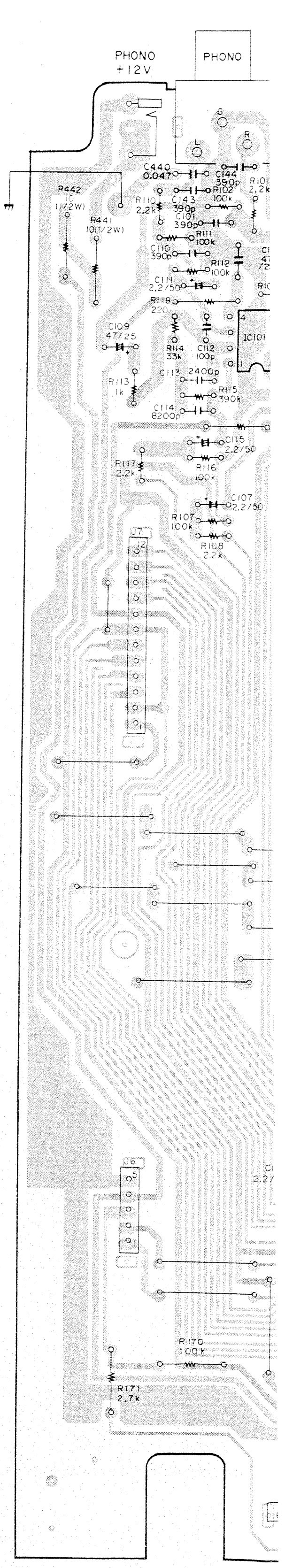

J902
D906
D905
D907
R904 390
R905
390

D905, D907	AEL-424
D906	1SS131

VR ASSEMBLY


VR401
100k
J5
6
1

AF ASSEMBLY(GWM-46


IC10
PHONO
+12V
PHONO
R442
R441
C440
0.047
C144
390p
C143
390p
R111
100k
R112
100k
C116
390p
C111
2.2/50
C109
47/25
R114
33k
C112
100p
IC101
R113
1k
C113
2400p
C114
8200p
R115
390k
C115
2.2/50
R117
2.2k
R116
100k
C107
2.2/50
R107
100k
R108
2.2k
J7
J6
R170
100k
R171
2.7k

7 8 9 10 11 12

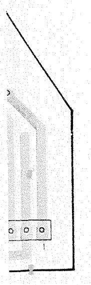
C102 M5218P
IC403 μPC78M12H
STK4171
108,Q402,Q403
1740S(2SC2603)
2SB1015
2SD438

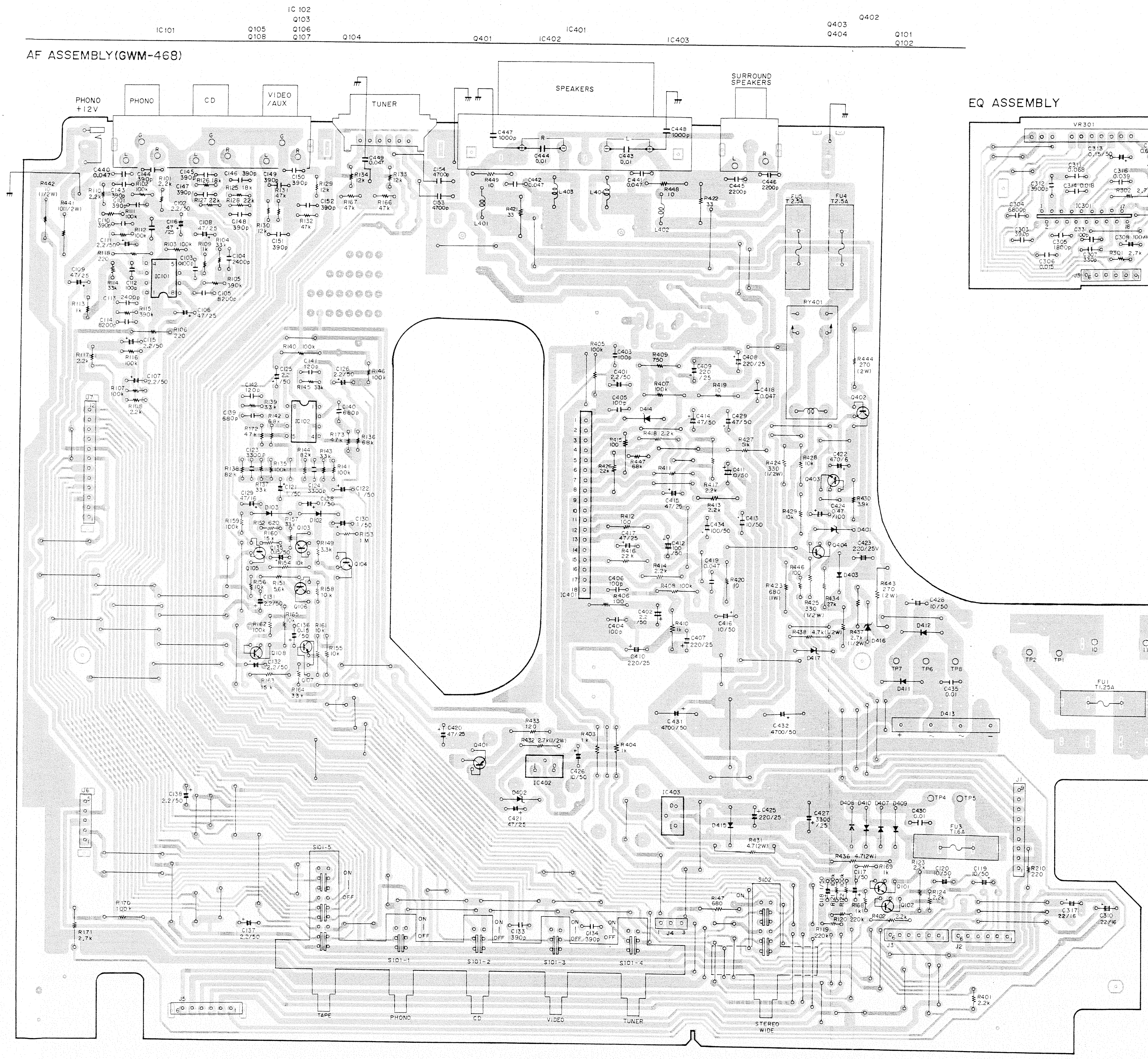
03,D415
1SS131
416 KZL150
RD13EB
1S2471
D412
66 (11E2)
RBV-402
RD15ESB
RD16EB
RD5.1EB

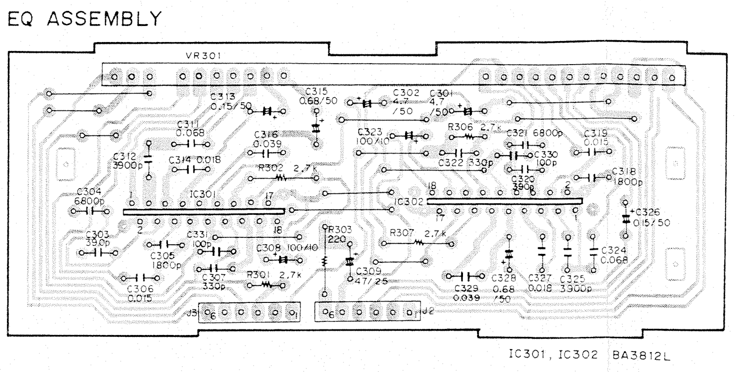
Y(B)

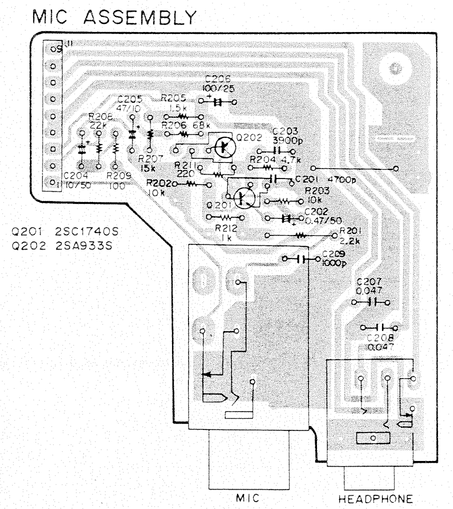
Q901 2SC2603
D901 1SS131
D902,D903
AEL-424
D904 AEL-382

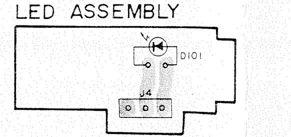
Y(C)




AF ASSEMBLY (GWM-468)
IC101
Q105
Q108
IC 102
Q103
Q106
Q107
Q104
Q401
IC402
IC401
IC403
Q403
Q404
Q402
Q101
Q102
PHONO +12V
PHONO
CD
VIDEO /AUX
TUNER
SPEAKERS
SURROUND SPEAKERS
FU5 T2.5A
FU4 T2.5A
RY401
IC401
IC402
IC403
FU1 T1.25A
FU3 T1.6A
S103
POWER
S101-5
S101-1
S101-2
S101-3
S101-4
S102
TAPE
PHONO
CD
VIDEO
TUNER
STEREO WIDE
J1
J2
J3
J4
J5
J6
J7


EQ ASSEMBLY
VR301
IC301
IC302
IC301, IC302 BA3812L


MIC ASSEMBLY
MIC
HEADPHONE
Q201 2SC1740S
Q202 2SA933S


LED ASSEMBLY
D101 AEL-443-A

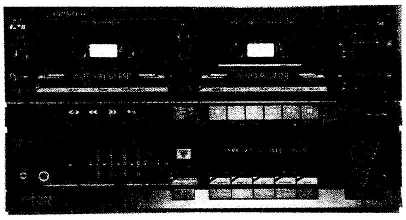
A
B
C
D

7 8 9 10 11 12

PIONEER

Service Manual

CIRCUIT DESCRIPTIONS
REPAIR & ADJUSTMENTS



ORDER NO.
ARP1055 - 0

STEREO DOUBLE CASSETTE TAPE DECK AMPLIFIER

DC-X55Z(BK)
DC-X55Z

MODEL DC-X55Z(BK) AND DC-X55Z COMES IN SEVEN VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Applicable model		Power requirement	Destination
	DC-X55Z(BK)	DC-X55Z		
HB	○	○	AC220V, 240V*(Switchable)	United Kingdom
HEZ	○	—	AC220V, 240V*(Switchable)	West Germany
KC	○	—	AC120V only	Canada
YP	○	—	AC240V only	Australia
HE	○	○	AC220V, 240V*(Switchable)	European continent
KU	○	—	AC120V only	U.S.A
S	○	—	AC110V, 120V, 220V, 240V (Switchable)	General market

- This service manual is applicable to the HB type.
- As to the other types, please refer to the additional service manual.
- Ce manual d'instruction se fefère au mode de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

* Change the primary wiring of the power transformer.

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1. SAFETY INFORMATIONS 2
2. SPECIFICATIONS 2
3. FRONT PANEL FACILITIES 3
4. PARTS LOCATION 5
5. EXPLODED VIEWS 7
6. PACKING 10
7. ELECTRICAL PARTS LIST 19
8.. P.C.BOARDS CONNECTION DIAGRAM 23
9. SCHEMATIC DIAGRAM 27
10. CIRCUIT DESCRIPTIONS 31
11. MECHANISM OUTLINE 42
12. ADJUSTMENTS 48
RÉGLAGE 54
AJUSTE 60
13. DISASSEMBLY 66

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A. TEL: (213) 420-5700
PIONEER ELECTRONIC (EUROPE) N.V. Keetberglaan 1,2740 Beveren. Belgium TEL: 03/775·28·08
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia
TEL: (03) 580-9911
SA© APR. 1986 Printed in Japan

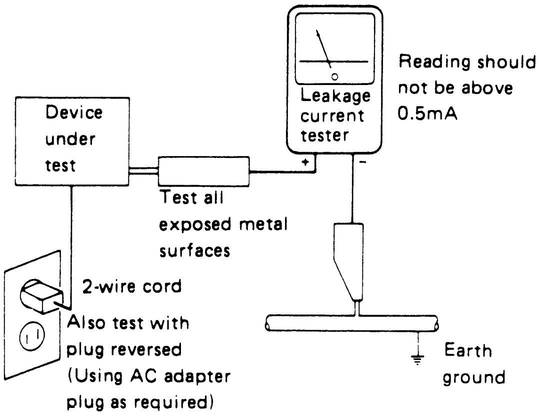
1. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
Device under test
+
−
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. SPECIFICATIONS

AMPLIFIER SECTION

Continous Average Power Output is 40 Watts* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz, with no more than 0.3% total harmonic distortion.

**Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.*

Continuous Power Output	
40 to 20,000Hz	40 W + 40 W (T.H.D. 0.3% 8 ohms)
1 kHz (DIN)	50 W + 50 W (T.H.D. 1% 8 ohms)
1 kHz (DIN music power)	70 W + 70 W (T.H.D. 1% 8 ohms)
PMPO	140 W + 140 W
Hum and Noise (IHF, short-circuited, A network)	
PHONO	72 dB
Hum and Noise (DIN continous Power/50 mV)	
PHONO	68 dB/60 dB
Total Harmonic Distortion (40 Hz to 20,000 Hz, 8 ohms)	
20 Watts per channel power output	No more than 0.2%

Tape Deck Section

Systems	4 track, 2-channel stereo
Heads	"Hard Permalloy" recording/playback head x 1 "Hard Permalloy" playback head x 1 "Ferrite" erasing head x 1
Motor	DC servo 2 speed motor x 2
Wow and Flutter	No more than 0.09% (WRMS)
Fast Winding Time	Approximately 100 seconds (C-60 tape)
Frequency Response	
−20 dB recording:	
Normal tape	35 Hz to 14,000 Hz ±6 dB
CrO$_2$	35 Hz to 15,000 Hz ±6 dB
Metal tape	35 Hz to 16,000 Hz ±6 dB
Signal-to-Noise Ratio	
Dolby NR OFF	56 dB
Noise Reduction Effect	
Dolby B type NR ON	More than 10 dB (at 5 kHz)

Furnished Parts

Operating Instructions	1
Turntable legs parts	2

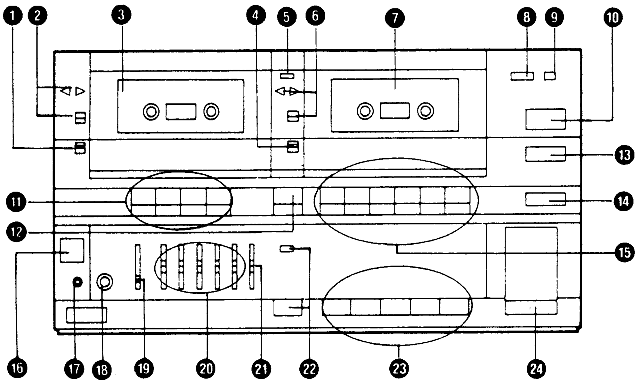
Miscellaneous

Power requirements	
U.S., Canadian models	AC 120 V, 60 Hz
European model	AC 220 V, 50/60Hz
U.K. and Australian models	AC 240 V, 50/60 Hz
Other destination models	AC 110/120/220/240 V (switchable) 50/60 Hz

Power Consumption

U.S., Canadian models	230 W (CSA 260 VA)
European model	380 W
U.K. and Australian models	380 W
Other destination models	230 W
Dimensions	360(W) x 190(H) x 283 (D) mm 14-3/16(W) x 7-7/16(H) x 11-1/8(D) in
Weight (without package)	7.4 kg (16 lb 5 oz)

3. FRONT PANEL FACILITIES



[CASSETTE TAPE DECK]

- This unit is provided with an automatic tape selector function.
- This unit is a forward mode priority auto-reverse deck. Both recording and playback always start in the forward direction.
  If you press the STOP/EJECT (■/⏏) switch during reverse playback, the head for forward playback will be reselected automatically.

❶ REVERSE MODE switch

Sets the reverse mode for the playback-only deck.

Switch positions:	Play
⊂⊃	Continuous play
⊃	Reverse play

Continuous playback is automatically stopped after 8 round trips. Note that it will be counted as one reversal if the tape direction is changed using the direction switch. (One round trip will be counted if the switch is pressed twice.)

❷ Direction switch/indicator (DIRECTION)

Depress to set the playback direction of the playback-only deck. Direction change can only be performed during playback.

▷ ... Lights when forward mode is selected.
◁ ... Lights when reverse mode is selected.

❸ Cassette compartment (Playback only)

❹ REVERSE MODE switch

Sets the reverse mode for the record/play deck.

Switch positions		Play	Record
⊂⊃	⊃	Continuous play	Double-side recording
⊃	—	Reverse play	Single-side recording

Continuous playback is automatically stopped after 8 round trips. Note that it will be counted as one reversal if the tape direction is changed using the direction switch. (One round trip will be counted if the switch is pressed twice.)

❺ Recording indicator (REC)

▭ ... Lights during recording. Flashes during tape copying. (DC-X55Z and DC-555Z only)

❻ Direction switch/indicator (DIRECTION)

Depress to set the recording and playback direction of the record/play deck. Direction change can be performed during recording, playback or pause.

▷ ... Lights when forward mode is selected. Flashes if tape travel is stopped during reverse recording.
◁ ... Lights when reverse mode is selected.

❼ Cassette compartment (Recording and playback)

❽ TAPE COUNTER (Record/play deck.)

3-digit display measures tape travel on record/play deck.

❾ TAPE COUNTER RESET button

⑩ COPY SPEED switch

Press to set the copy mode.

▮ NORMAL ... Permits you to listen to playback normally during dubbing (normal speed copying)

▄ HIGH ... High speed dubbing (double-speed, half-time copying)

⑪ Playback-only switches

<•> (PLAY) . Forward or reverse mode playback.

≪ (FAST) ..... Rewind in forward mode, fast forward in reverse mode.

≫ (FAST) ..... Fast forward in forward mode, rewind in reverse mode.

■/⏏ (STOP/EJECT) ... Stops tape travel. Ejects cassette if pressed when tape is stopped.

⑫ Synchronized copy switch (SYNCHRO COPY)

Press to start copying from Deck I to Deck II. Set the copying speed (NORMAL or HIGH) using the COPY SPEED switch.

- Press this switch only after you have set the COPY SPEED switch as desired. If this switch is pressed first, the speed cannot afterwards be changed, even if the COPY SPEED switch position is later changed.

⑬ Dolby NR switch

Press to activate noise reduction system. Use to play back tapes recorded using Dolby B NR noise reduction.

- Tapes recorded using Dolby B NR noise reduction should always be played back with the noise reduction system on. Sound quality will be adversely affected if they are played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby B NR system on.
- It is recommeded that tapes recorded using Dolby B NR be so marked on the label. This will help to prevent incorrect setting of the noise reduction switch during playback.

Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

⑭ Recording mute switch (REC MUTE)

Use to create blank intervals on a tape during recording. Works only while held depressed.

⑮ Record/Playback switches

● (REC)	Record
<•> (PLAY) ..	Playback in forward or reverse mode.
≪ (FAST)	Rewind in forward mode, fast forward in reverse mode.
≫ (FAST)	Fast forward in forward mode, rewind in reverse mode.
■/⏏ (STOP/EJECT) ..	Stops tape travel. Ejects cassette if pressed when tape is stopped.
▮▮ (PAUSE)	Temporarily stops tape travel. Cancels pause mode when pressed again.

[AMPLIFIER/GRAPHIC EQUALIZER]

⑯ Power switch (POWER)

⑰ Headphone jack (PHONES)

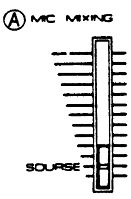
For miniature stereo phone plug.

⑱ Microphone jack (MIC)

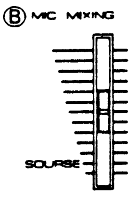
For standard phone plug.

⑲ Mic Mixing Controls (MIC MIXING)

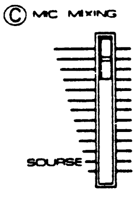
Adjusts balance between mic volume and volume of other input sources.



Source input emphasized



To listen to the sound from a microphone mixed with that of a radio broadcast or tape playback:



Mic input emphasized

NOTE:

- *Set the control to the SOURCE position as shown in Fig. A when not using a microphone.*
- *Source volume is cut by about 1/100 when control is set to the MIC position.*

⑳ Graphic equalizer controls (GRAPHIC EQUALIZER)

Fine adjustments in sound quality are possible using the 5 controls on the graphic equalizer.

㉑ BALANCE control

㉒ SURROUND/STEREO WIDE switch/indicator

By using this function, the sounds from stereo sources will be given new breadth, reproducing the effect of concert hall presence.

NOTE:
Stereo Wide sound has no effect on monaural sources (AM broadcasts, etc.).

㉓ Function switches (FUNCTION)

Press the button corresponding to the desired program source.

TUNER	Press to listen to radio.
VIDEO	Press to listen to component (Hi-Fi VCR, laser disc player, etc.) connected to the auxiliary input jacks.
CD	Press to listen to CD player.
PHONO	Press to listen to turntable.
TAPE	Press to listen to tape playback.

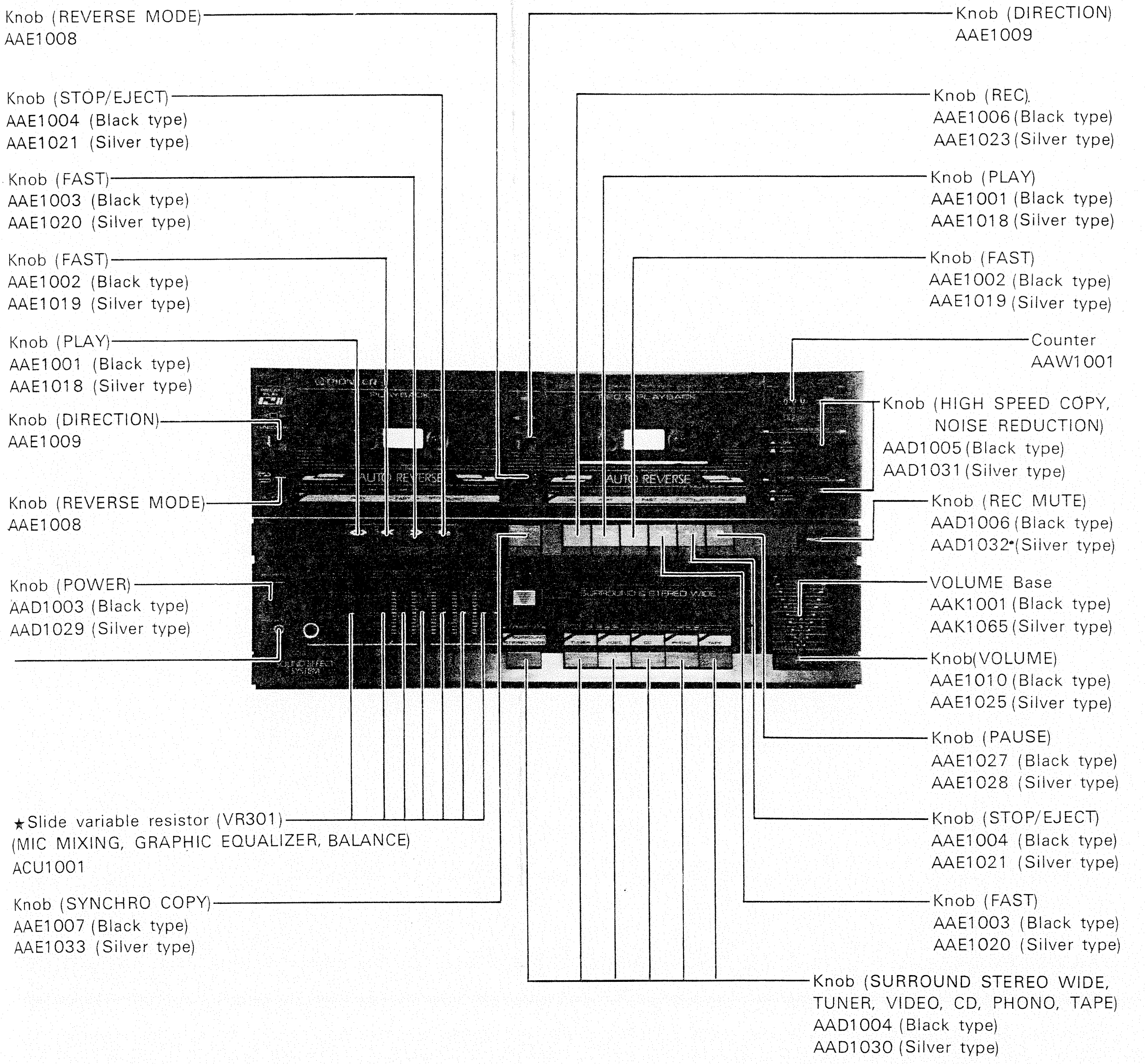
㉔ Volume Control (VOLUME)

4. PARTS LOCATION

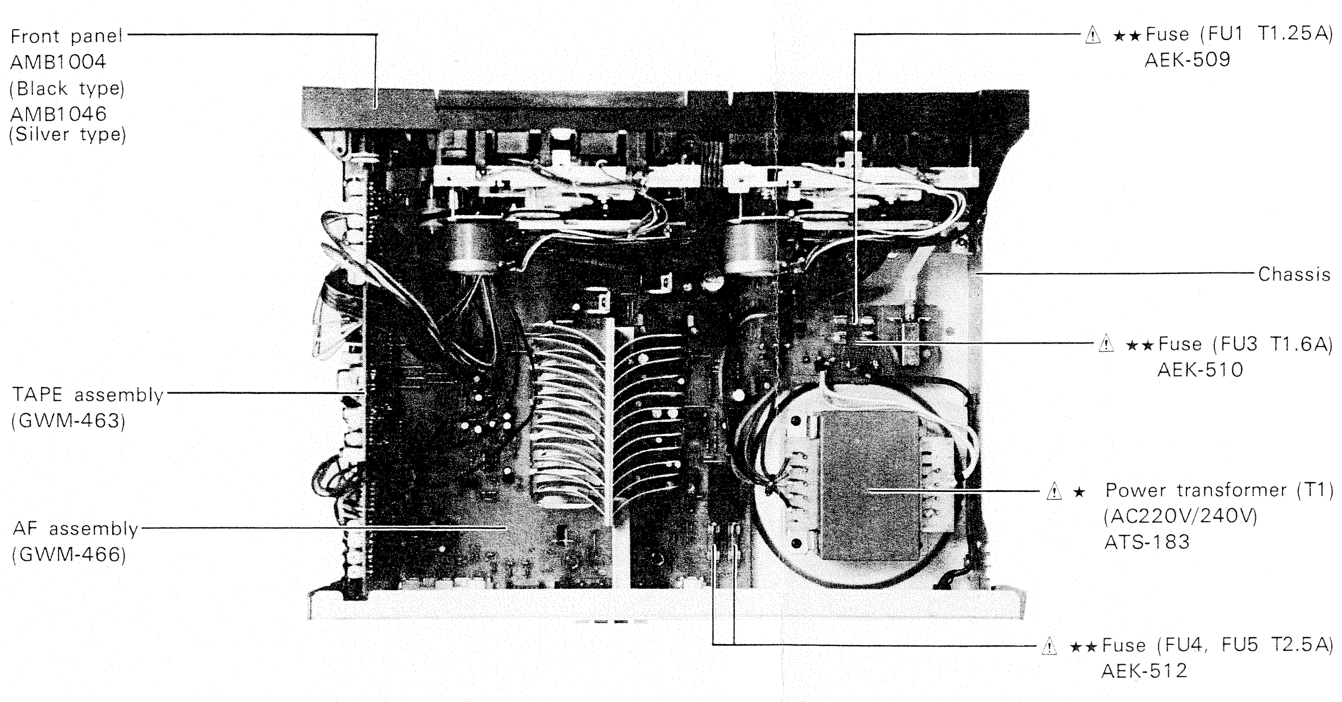
NOTES:

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by " ⊙ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

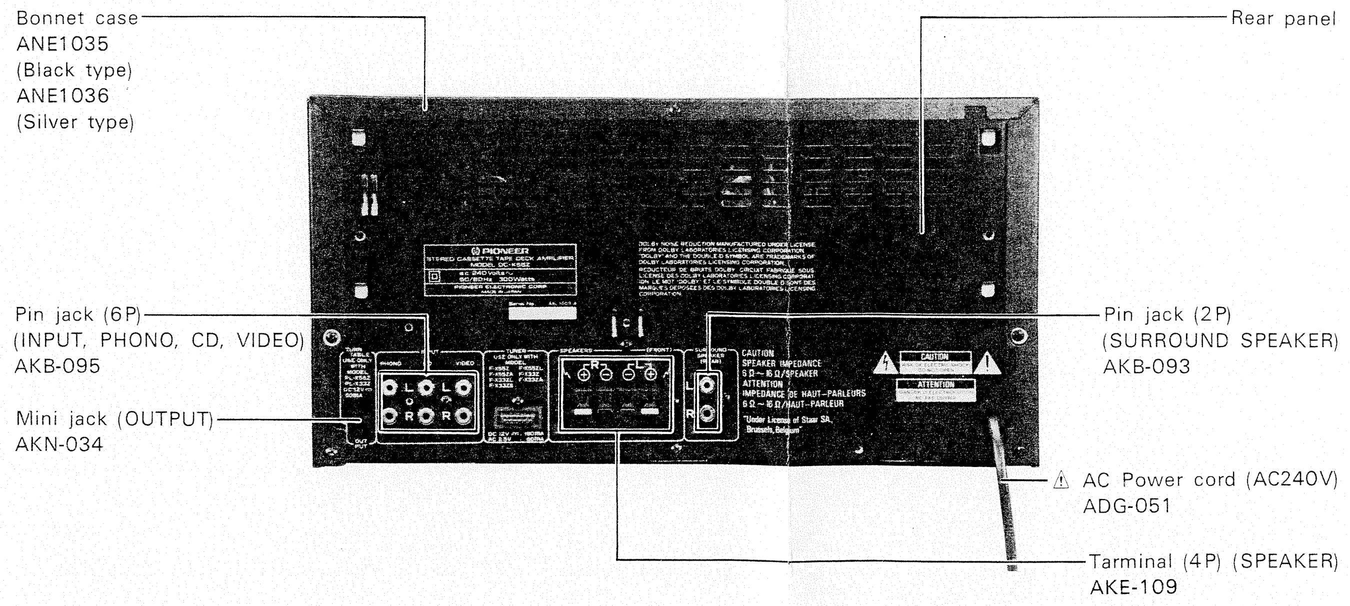
Front Panel View


Knob (REVERSE MODE)
AAE1008
Knob (STOP/EJECT)
AAE1004 (Black type)
AAE1021 (Silver type)
Knob (FAST)
AAE1003 (Black type)
AAE1020 (Silver type)
Knob (FAST)
AAE1002 (Black type)
AAE1019 (Silver type)
Knob (PLAY)
AAE1001 (Black type)
AAE1018 (Silver type)
Knob (DIRECTION)
AAE1009
Knob (REVERSE MODE)
AAE1008
Knob (POWER)
AAD1003 (Black type)
AAD1029 (Silver type)
★Slide variable resistor (VR301)
(MIC MIXING, GRAPHIC EQUALIZER, BALANCE)
ACU1001
Knob (SYNCHRO COPY)
AAE1007 (Black type)
AAE1033 (Silver type)
Knob (DIRECTION)
AAE1009
Knob (REC)
AAE1006 (Black type)
AAE1023 (Silver type)
Knob (PLAY)
AAE1001 (Black type)
AAE1018 (Silver type)
Knob (FAST)
AAE1002 (Black type)
AAE1019 (Silver type)
Counter
AAW1001
Knob (HIGH SPEED COPY, NOISE REDUCTION)
AAD1005 (Black type)
AAD1031 (Silver type)
Knob (REC MUTE)
AAD1006 (Black type)
AAD1032 (Silver type)
VOLUME Base
AAK1001 (Black type)
AAK1065 (Silver type)
Knob (VOLUME)
AAE1010 (Black type)
AAE1025 (Silver type)
Knob (PAUSE)
AAE1027 (Black type)
AAE1028 (Silver type)
Knob (STOP/EJECT)
AAE1004 (Black type)
AAE1021 (Silver type)
Knob (FAST)
AAE1003 (Black type)
AAE1020 (Silver type)
Knob (SURROUND STEREO WIDE, TUNER, VIDEO, CD, PHONO, TAPE)
AAD1004 (Black type)
AAD1030 (Silver type)
AUTO REVERSE
AUTO REVERSE
SURROUND ☐ STEREO WIDE

Top View with Bonnet Case Removed


Front panel
AMB1004
(Black type)
AMB1046
(Silver type)
TAPE assembly
(GWM-463)
AF assembly
(GWM-466)
⚠ ★★Fuse (FU1 T1.25A)
AEK-509
Chassis
⚠ ★★Fuse (FU3 T1.6A)
AEK-510
⚠ ★ Power transformer (T1)
(AC220V/240V)
ATS-183
⚠ ★★Fuse (FU4, FU5 T2.5A)
AEK-512

Rear Panel View


Bonnet case
ANE1035
(Black type)
ANE1036
(Silver type)
Rear panel
Pin jack (6P)
(INPUT, PHONO, CD, VIDEO)
AKB-095
Mini jack (OUTPUT)
AKN-034
Pin jack (2P)
(SURROUND SPEAKER)
AKB-093
⚠ AC Power cord (AC240V)
ADG-051
Tarminal (4P) (SPEAKER)
AKE-109
PIONEER
CAUTION
ATTENTION

5. EXPLODED VIEWS

5.1 Exterir

NOTES:

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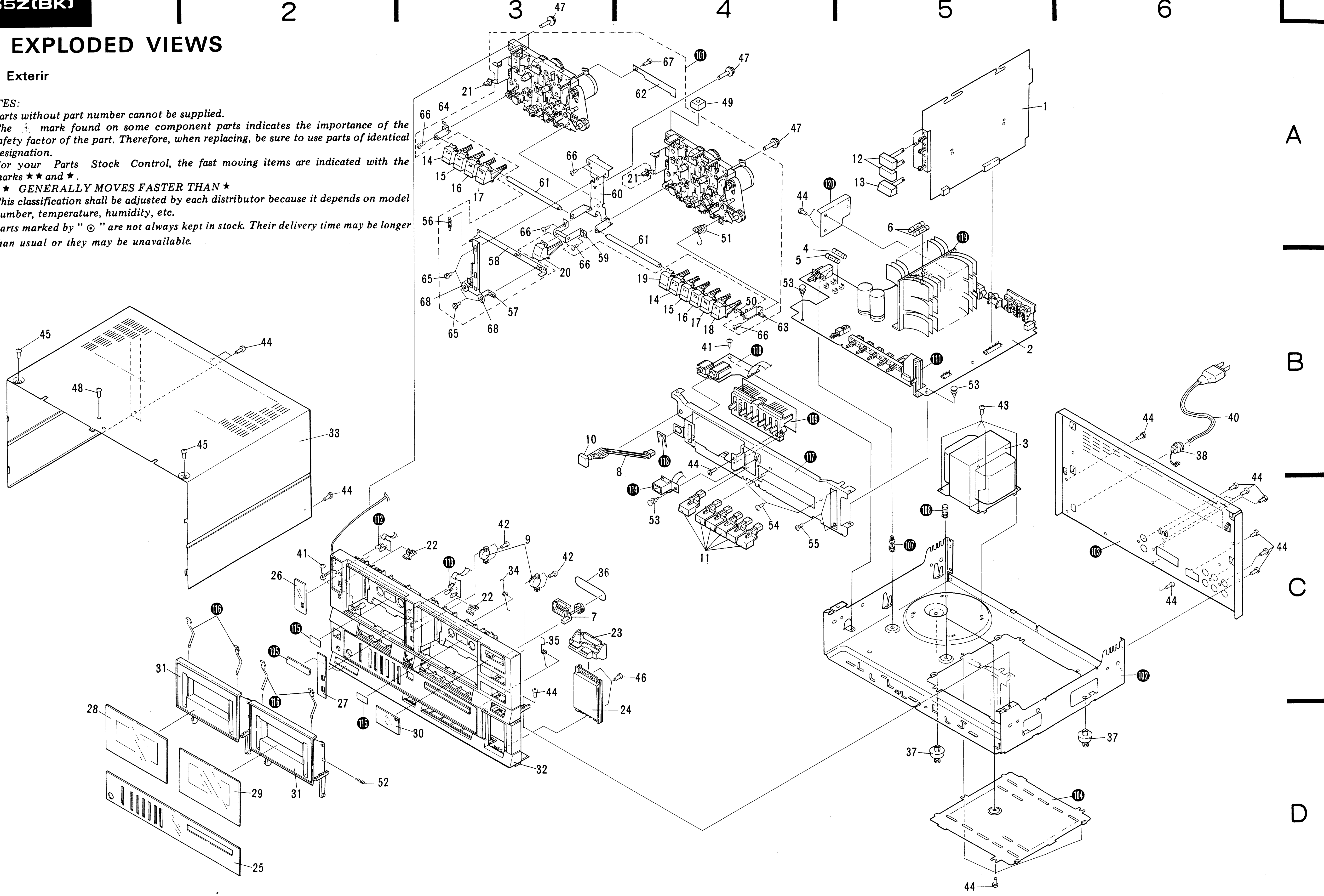
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*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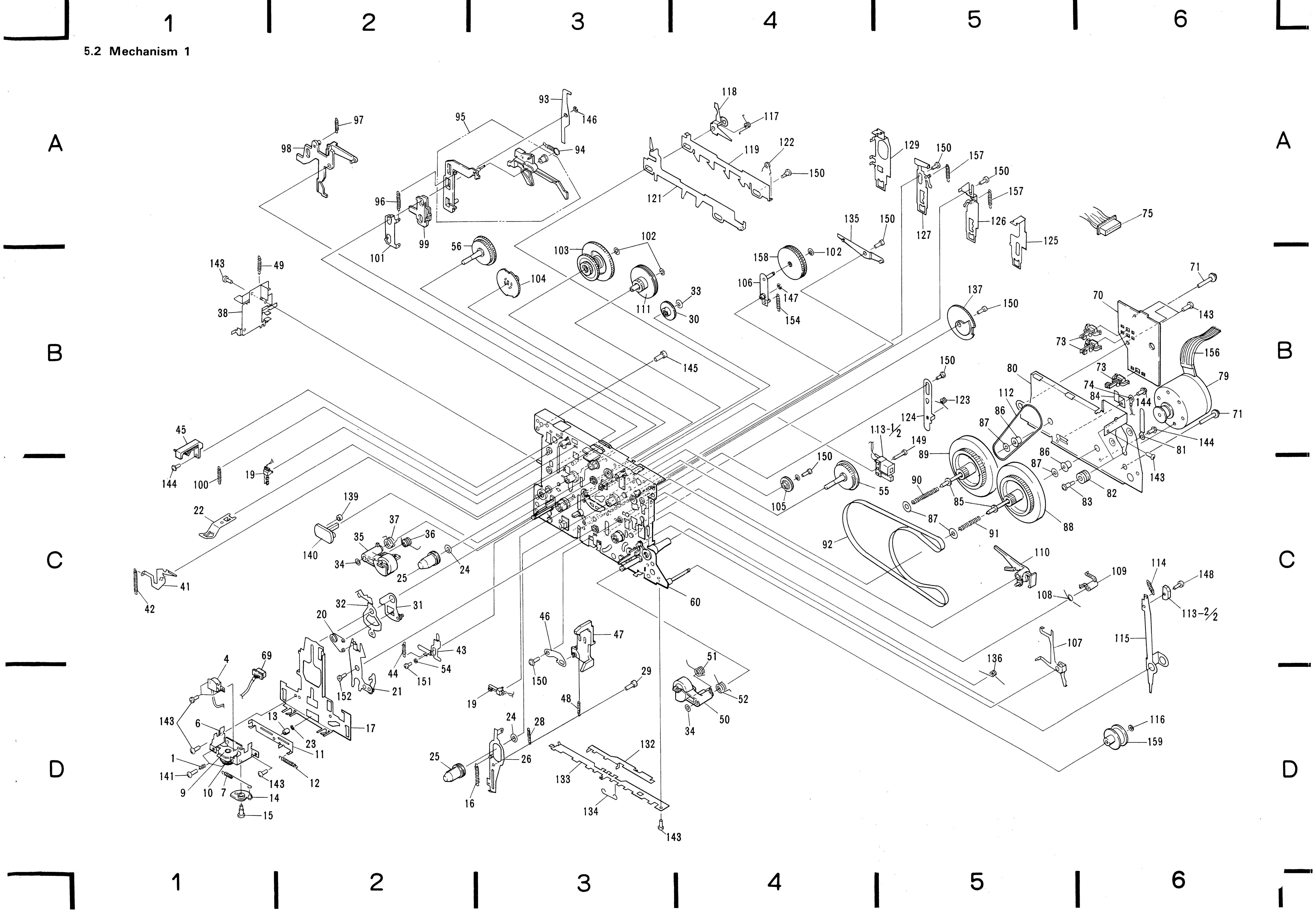
5.2 Mechanism 1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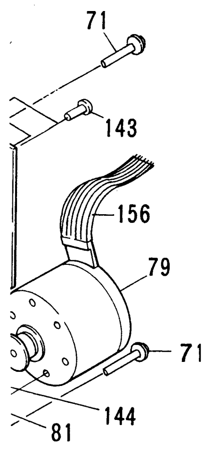
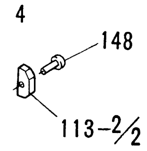
Parts Li

Mark

★★

★★





NOTES:
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- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
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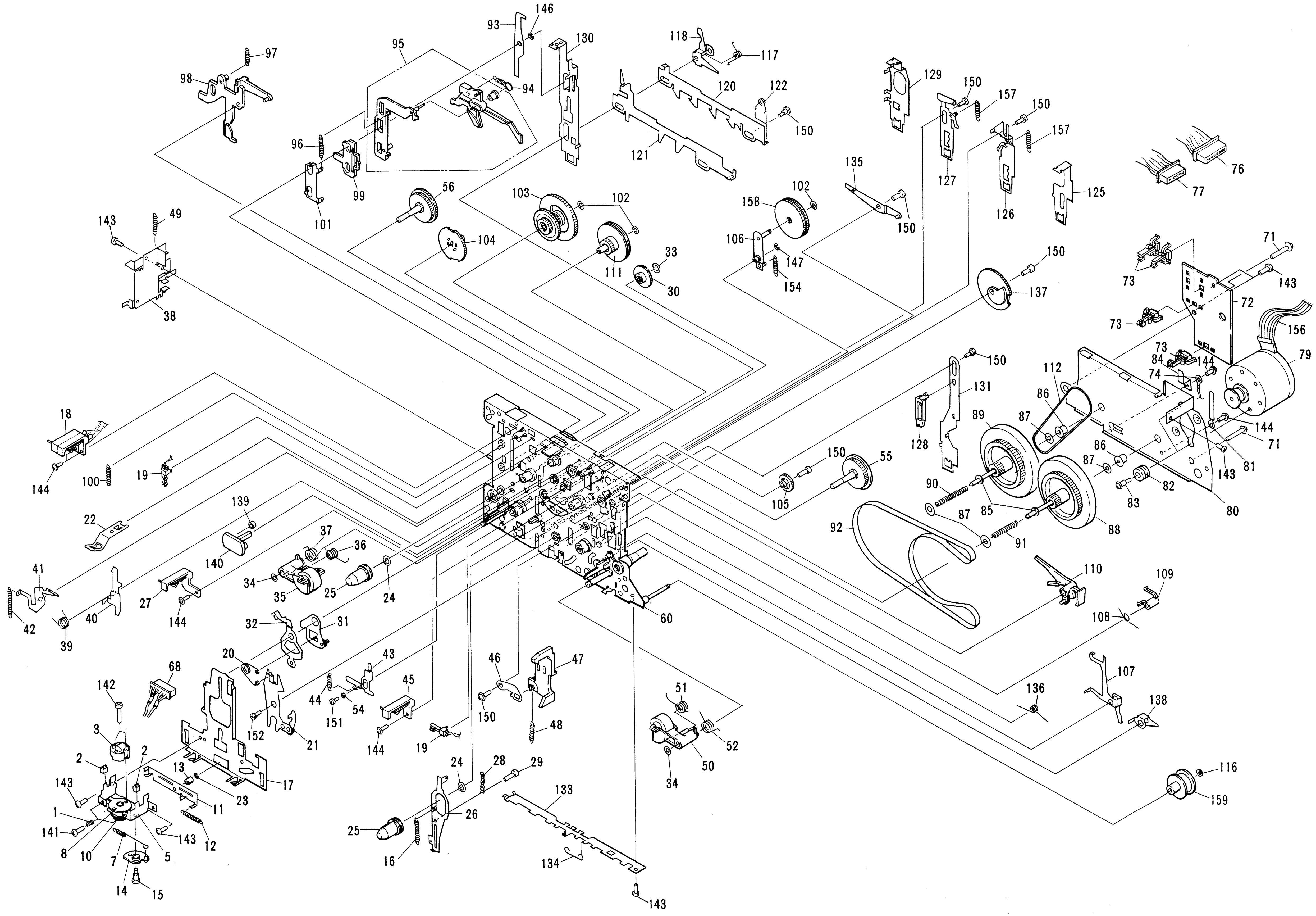
Parts List of Mechanism 1

Mark	No.	Part No.	Description
	1	AZN1055	Pressure spring
	2	.....	.....
	3	.....	.....
★★	4	AZP1007	PLAY head
	5	.....	.....
	6	AZN1058	Metal assembly I
	7	AZN1059	Head GR spring
	8	.....	.....
	9	AZN1061	Head holder assembly I
	10	AZN1062	Head gear (A)
	11	AZN1063	Slide plate assembly
	12	AZN1064	Slide plate spring
	13	AZN1065	Collar
	14	AZN1066	Head gear (B)
	15	AZB1032	Step screw
	16	AZN1067	Return spring
	17	AZN1068	Head base
	18	.....	.....
★★	19	AZS1013	Leaf switch (DIR, MUT SW)
	20	AZN1069	Reverse spring
	21	AZN1070	Pincl lever assembly
	22	AZN1071	Half set arm
	23	AZN1072	P washer
	24	AZB1034	Washer
	25	AZN1073	Reel claw
	26	AZN1074	Sub-plate assembly
	27	.....	.....
	28	AZN1075	Head-return spring
	29	AZB1033	Step screw
	30	AZN1076	Idler gear
	31	AZN1077	Idler assembly
	32	AZN1078	Reverse plate A
	33	AZN1079	P washer 1.3x3x0.25
	34	AZN1080	P washer
	35	AZN1081	Pinch arm assembly (L)
	36	AZN1082	Twist spring
	37	AZN1083	Pinch roller return spring
	38	AZN1084	Mounting plate assembly
	39	.....	.....
	40	.....	.....
	41	AZN1087	MO plate
	42	AZN1088	Coiled spring
	43	ANZ1089	Reverse sub-plate
	44	AZN1090	Reverse spring
★★	45	AZS1015	Leaf switch (ARR/CrO_2 SW)
	46	AZN1091	Latch slide plate
	47	AZN1092	Latch lever
	48	AZN1093	Latch-return spring
	49	AZN1094	DIR lever spring
	50	AZN1095	Pinch arm assembly (R)
	51	AZN1096	Twist spring
	52	AZN1097	Pinch roller spring (R)
	53	.....	.....
	54	AZN1099	Collar
	55	AZN1100	Reel base assembly (R)
	56	AZN1101	Reel base assembly (F)
	57	.....	.....
	58	.....	.....
	59	.....	.....
	60	AZN1105	Mechanism chassis
	61	.....	.....
	62	.....	.....
	63	.....	.....
	64	.....	.....
	65	.....	.....
	66	.....	.....
	67	.....	.....
	68	.....	.....
	69	AZK1025	4P connector
	70	AEN1110	P.C. board (I)
	71	AZB1036	Flange screw M2.6x28
	72	.....	.....
★★	73	AZS1016	Leaf switch
	74	AZD1003	Ground wire
	75	AZK1026	11P connector
	76	.....	.....
	77	.....	.....
	78	.....	.....
	79	AZX1005	Motor assembly
★★	80	AZN1114	F/W base plate
	81	AZN1115	Wire holder assembly
	82	AZN1116	Rubber washer
	83	AZB1037	Motor mounting screw
	84	AZN1117	Synchro holder
	85	AZN1118	P washer
	86	AZN1119	Metal
	87	AZN1120	P washer 2.6x8x0.13
	88	AZN1113	Flywheel assembly (R)
	89	AZN1121	Flywheel assembly (L)
	90	AZN1122	Pressure spring (black)
	91	AZN1123	Pressure spring (white)
	92	AZN1124	Flat belt
	93	AZN1125	Rerease lever
	94	AZN1126	Spring
	95	AZN1127	Detector lever assembly
	96	AZN1128	Spring
	97	AZN1129	Spring
	98	AZN1130	DIR lever
	99	AZN1131	Mode lever
	100	AZN1132	Coiled spring
	101	AZN1133	Mode plate
	102	AZN1134	P washer 1.6x4x0.25
	103	AZN1135	Tension pulley assembly
	104	AZN1136	Reverse gear
	105	AZN1137	FWD gear
	106	AZN1138	FF idler plate assembly
	107	AZN1142	Anti-detect plate
	108	AZN1143	Twist spring
	109	AZN1144	Clutch stopper
	110	AZN1145	Anti-detect lever
	111	AZN1146	Drive pulley
	112	AZN1147	Square belt
	113	AZN1148	Magnet
	114	AZN1149	Magnet spring
	115	AZN1150	Magnet arm
	116	AZN1151	Washer
	117	AZN1152	SW drive spring
	118	AZN1153	SW push plate
	119	AZN1154	PB plate (A)
	120	.....	.....
	121	AZN1156	Plate (B)
	122	AZN1157	Plate
	123	AZN1158	Stop spring pause spring
	124	AZN1159	Detector sub-plate
	125	AZN1160	Stop plate
	126	AZN1161	FF plate assembly
	127	AZN1162	REW plate assembly
	128	.....	.....
	129	AZN1164	PLAY plate
	130	.....	.....
	131	.....	.....
	132	AZN1167	Plate (C)
	133	AZN1168	Knob holder plate
	134	AZN1169	Lead clamper
	135	AZN1170	Assist arm assembly
	136	AZN1171	Trigger return spring
	137	AZN1172	Assist gear
	138	.....	.....
	139	AZN1174	Collar
	140	AZN1175	Reverse cam assembly
	141	AZB1038	Pan-screw
	142	.....	.....
	143	AZB1040	Screw
	144	AZB1041	Flange screw
	145	AZB1042	FT screw
	146	AZN1176	CS ring
	147	AZN1177	E-ring
	148	AZB1043	Screw
	149	AZB1044	Screw
	150	AZB1045	Bushing
	151	AZB1046	Bind screw
	152	AZB1047	Bushing
	153	.....	.....
	154	AZN1179	FF idler plate spring
	155	.....	.....
	156	AZD1004	Jumper wire
	157	AZN1139	FF.REW gear spring
	158	AZN1140	FF idler assembly
	159	AZN1141	Idler assembly

5.3 Mechanism 2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Parts List of

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	1	A
	2	A
★★	3	A
	4	··
	5	A
	6	··
	7	A
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	10	A
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	13	A
	14	A
	15	A
	16	A
	17	A
★★	18	A
★★	19	A
	20	A
	21	A
	22	A
	23	A
	24	A
	25	A
	26	A
★★	27	A
	28	A
	29	A
	30	A
	31	A
	32	A
	33	A
	34	A
	35	A
	36	A
	37	A
	38	A
	39	A
	40	A

NOTES:

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Parts List of Mechanism 2

Mark	No.	Part No.	Description
	1	AZN1055	Pressure spring
	2	AZN1056	Tape guide
★★	3	AZP1006	Head assembly (REC/PB and ERACE)
	4	·····	·····
	5	AZN1057	Metal assembly II
	6	·····	·····
	7	AZN1059	Head GR spring
	8	AZN1060	Haed holder assembly II
	9	·····	·····
	10	AZN1062	Head gear (A)
	11	AZN1063	Slide plate assembly
	12	AZN1064	Slide plate spring
	13	AZN1065	Collar
	14	AZN1066	Head gear (B)
	15	AZB1032	Step screw
	16	AZN1067	Return spring
	17	AZN1068	Head base
★★	18	AZS1012	Leaf switch (ARF SW)
★★	19	AZS1013	Leaf switch (DIR, MUT SW)
	20	AZN1069	Reverse spring
	21	AZN1070	Pinch lever assembly
	22	AZN1071	Half set arm
	23	AZN1072	P washer
	24	AZB1034	Washer
	25	AZN1073	Reel claw
	26	AZN1074	Sub-plate assembly
★★	27	AZS1014	Leaf switch (Metal sw)
	28	AZN1075	Head-return spring
	29	AZB1033	Step screw
	30	AZN1076	Idler gear
	31	AZN1077	Idler assembly
	32	AZN1078	Reverse plate A
	33	AZN1079	P washer 1.3x3x0.25
	34	AZN1080	P washer
	35	AZN1081	Pinch arm assembly (L)
	36	AZN1082	Twist spring
	37	AZN1083	Pinch roller return spring
	38	AZN1084	Mounting plate assembly
	39	AZN1085	REC prevent spring
	40	AZN1086	REC prevent plate
	41	AZN1087	MO plate
	42	AZN1088	Coiled spring
	43	ANZ1089	Reverse sub-plate
	44	AZN1090	Reverse spring
★★	45	AZS1015	Leaf switch (ARR/C_rO_2 SW)
	46	AZN1091	Latch slide plate
	47	AZN1092	Latch lever
	48	AZN1093	Latch-return spring
	49	AZN1094	DIR lever spring
	50	AZN1095	Pinch arm assembly (R)
	51	AZN1096	Twist spring
	52	AZN1097	Pinch roller spring (R)
	53	·····	·····
	54	AZN1099	Collar
	55	AZN1100	Reel base assembly (R)
	56	AZN1101	Reel base assembly (F)
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	58	·····	·····
	59	·····	·····
	60	AZN1105	Mechanism chassis
	61	·····	·····
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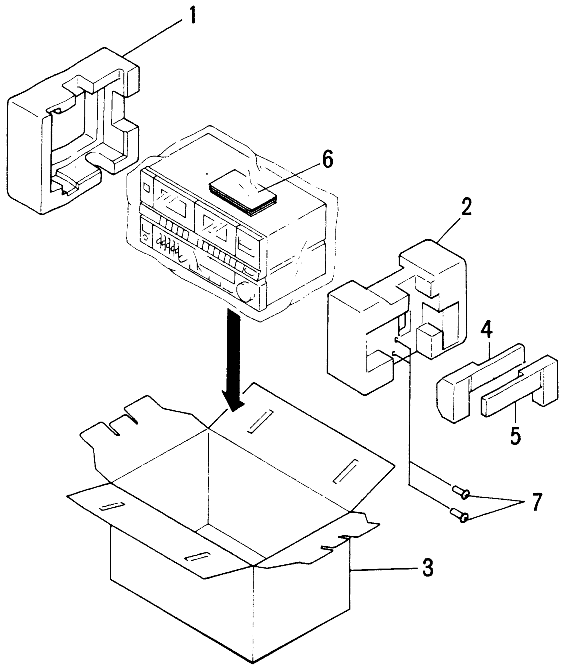
	65	·····	·····
	66	·····	·····
	67	·····	·····
	68	AZK1024	8P connector
	69	·····	·····
	70	·····	·····
	71	AZB1036	Flange screw M2.6x28
	72	AZN1111	P.C.board (II)
★★	73	AZS1016	Leaf switch
	74	AZD1003	Ground wire
	75	·····	·····
	76	AZK1027	8P connector
	77	AZK1028	5P connector
	78	·····	·····
★★	79	AZX1005	Motor assembly
	80	AZN1114	F/W base plate
	81	AZN1115	Wire holder assembly
	82	AZN1116	Rubber washer
	83	AZB1037	Motor mounting screw
	84	AZN1117	Synchro holder
	85	AZN1118	P washer
	86	AZN1119	Metal
	87	AZN1120	P washer 2.6x8x0.13
	88	AZN1113	Flywheel assembly (R)
	89	AZN1121	Flywheel assembly (L)
	90	AZN1122	Pressure spring (black)
	91	AZN1123	Pressure spring (white)
	92	AZN1124	Flat belt
	93	AZN1125	Rerease lever
	94	AZN1126	Spring
	95	AZN1127	Detector lever assembly
	96	AZN1128	Spring
	97	AZN1129	Spring
	98	AZN1130	DIR lever
	99	AZN1131	Mode lever
	100	AZN1132	Coiled spring
	101	AZN1133	Mode plate
	102	AZN1134	P washer 1.6x4x0.25
	103	AZN1135	Tension pulley assembly
	104	AZN1136	Reverse gear
	105	AZN1137	FWD gear
	106	AZN1138	FF idler plate assembly
	107	AZN1142	Anti-detect plate
	108	AZN1143	Twist spring
	109	AZN1144	Clutch stopper
	110	AZN1145	Anti-detect lever
	111	AZN1146	Drive pulley
	112	AZN1147	Square belt
	113	·····	·····
	114	·····	·····
	115	·····	·····
	116	AZN1151	Washer
	117	AZN1152	SW drive spring
	118	AZN1153	SW push plate
	119	·····	·····
	120	AZN1155	REC/PB plate (A)
	121	AZN1156	Plate (B)
	122	AZN1157	Plate spring
	123	·····	·····
	124	·····	·····
	125	AZN1160	Stop plate
	126	AZN1161	FF plate assembly
	127	AZN1162	REW plate assembly
	128	AZN1163	PAUSE arm
	129	AZN1164	PLAY plate
	130	AZN1165	REC plate
	131	AZN1166	PAUSE plate
	132	·····	·····
	133	AZN1168	Knob holder plate
	134	AZN1169	Lead clamper
	135	AZN1170	Assist arm assembly
	136	AZN1171	Trigger return spring
	137	AZN1172	Assist gear
	138	AZN1173	PAUSE arm
	139	AZN1174	Collar
	140	AZN1175	Reverse cam assembly
	141	AZB1038	Pan-screw
	142	AZB1039	Screw
	143	AZB1040	Screw
	144	AZB1041	Flange screw
	145	·····	·····
	146	AZN1176	CS ring
	147	AZN1177	E-ring
	148	·····	·····
	149	·····	·····
	150	AZB1045	Bushing
	151	AZB1046	Bind screw
	152	AZB1047	Bushing
	153	·····	·····
	154	AZN1179	FF idler plate spring
	155	·····	·····
	156	AZD1004	Jumper wire
	157	AZN1139	FF.REW gear spring
	158	AZN1140	FF idler assembly
	159	AZN1141	Idler assembly

Parts List of Exterir

Mark	No.	Part No.	Description
	1	GWM-463	TAPE assembly
	2	GWM-466	AF assembly
⚠ ★	3	ATS-183	Power transformer (T1) (AC 220V/240V)
	4	AEK-509	Fuse (FU1 T1.25A)
	5	AEK-510	Fuse (FU3 T1.6A)
	6	AEK-512	Fuse (FU4, FU5 T2.5A)
	7	AAW1001	Counter
	8	AMR1003	Power joint
	9	AMR1006	Damper assembly
	10	AAD1003 (Black type) AAD1029 (Silver type)	Knob (POWER)
	11	AAD1004 (Black type) AAD1030 (Silver type)	Knob(SURROUND, STEREO WIE, TUNER, CD, PHONO, TAPE)
	12	AAD1005 (Black type) AAD1031 (Silver type)	Knob (HIGH SPEED COPY, ON/OFF)
	13	AAD1006 (Black type) AAD1032 (Silver type)	Knob (REC MUTE)
	14	AAE1001 (Black type) AAE1018 (Silver type)	Knob (PLAY)
	15	AAE1002 (Black type) AAE1019 (Silver type)	Knob (FAST)
	16	AAE1003 (Black type) AAE1020 (Silver type)	Knob (FAST)
	17	AAE1004 (Black type) AAE1021 (Silver type)	Knob (STOP/EJECT)
	18	AAE1027 (Black type) AAE1028 (Silver type)	Knob (PAUSE)
	19	AAE1006 (Black type) AAE1023 (Silver type)	Knob (REC)
	20	AAE1007 (Black type) AAE1024 (Silver type)	Knob (SYNCHRO COPY)
	21	AAE1008	Knob (REVERSE MODE, REC/PLAY)
	22	AAE1009	Knob (DIRECTION)
	23	AAE1010 (Black type) AAE1025 (Silver type)	Knob (VOLUME)
	24	AAK1001 (Black type) AAK1065 (Silver type)	VOLUME base
	25	AAK1002	AMP panel
	26	AAK1003 (Black type) AAK1066 (Silver type)	Deck panel (A)
	27	AAK1004	Deck panel (B)
	28	AAK1005	Door panel (L)
	29	AAK1006	Door panel (R)
	30	AAK1008 (Black type) AAK1067 (Silver type)	Counter panel
	31	AAN1001	Door
	32	AMB1004 (Black type) AMB1046 (Silver type)	Front panel
	33	ANE1035 (Black type) ANE1036 (Silver type)	Bonnet case
	34	ABH1001	Coil spring (L)
	35	ABH1002	Coil spring (R)
	36	AEB-197	Counter belt
	37	AEC-847	Leg assembly
⚠	38	AEC-882	AC Cord stopper
	39	ABA1003	Screw
⚠	40	ADG-051	AC Power cord (AC 240V)
	41	BBT30P080FMC	Screw
	42	BBZ20P100FMC	Screw
	43	BBZ30P060FZK	Screw
	44	BBZ30P080FZK	Screw
	45	VPZ30P080FZK (Black type) VPZ30P080FUC (Silver type)	Screw
	46	BPZ30P080FZK	Screw
	47	VPZ30P100FMC	Screw
	48	BBZ30P120FZK (Black type) BBZ30P120FUC (Silver type)	Screw
	49	AEB1013	Rubber
	50	ABH1008	PAUSE spring
	51	ABH1010	Sub-spring
	52	ABH1009	Coil spring
	53	AEC-525	Nylon rivet
	54	VMZ30P060FMC	Screw
	55	PMZ20P030FZK	Screw
	56	AZN1109	Synchro spring
	57	AZN1108	Synchro operation plate
	58	AZN1107	Synchro plate
	59	AZN1104	Synchro axis

Mark	No.	Part No.	Description
	60	AZN1102	Docking plate
	61	AZN1103	Knob axis
	62	AZN1112	Rein forcement plate
	63	ANZ1098	Knob holder (R)
	64	ANZ1106	Knob holder (L)
	65	AZB1035	Screw
	66	AZB1042	Screw
	67	AZB1040	Screw
	68	AZN1178	Washer
	101		Cassette mechanism assembly
	102		Chassis
	103		Rear panel
	104		Bottom plate
	105		AMP bage
	106		Bainder
	107		P.C.B Holder
	108		P.C.B Support
	109		EQ assembly
	110		MIC assembly
	111		VR assembly
	112		LED assembly (C)
	113		LED assembly (B)
	114		LED assembly (A)
	115		Remain display paper
	116		Half pressure spring
	117		Unit stay
	118		Mount plate
	119		Heat sink
	120		Heat sink holder

6. PACKING



Mark	No.	Part No.	Description
	1	AHA1001	Side pad (L)
	2	AHA1002	Side pad (R)
	3	AHD1001 (Black type) AHD1055 (Silver type)	Packing case
	4	AMR1060 (Black type) AMR1062 (Silver type)	Player stand (L)
	5	AMR1061 (Black type) AMR1063 (Silver type)	Player stand (R)
	6	ARB1001	Operating instruction (English)
	7	ABA1003	Screw

7. ELECTRICAL PARTS LIST

NOTES:

- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
  560Ω　56 × 10¹　561 ..... RD¼PS $\boxed{5}\boxed{6}\boxed{1}$ J
  47kΩ　47 × 10³　473 ..... RD¼PS $\boxed{4}\boxed{7}\boxed{3}$ J
  0.5Ω　0R5 .... RN2H $\boxed{0}\boxed{R}\boxed{5}$ K
  1Ω　010 .... RS1P $\boxed{0}\boxed{1}\boxed{0}$ K
  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
  5.62kΩ　562 × 10¹　5621 .... RN¼SR $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Miscellaneous Parts

P.C BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	TAPE assembly	GWM-463
	AF assembly	GWM-466
	EQ assembly	Non supply
	MIC assembly	Non supply
	VR assembly	Non supply
	LED assembly (A)	Non supply
	LED assembly (B)	Non supply
	LED assembly (C)	Non supply

OTHERS

Mark	Symbol & Description	Part No.
⚠ ★	T1 Power transformer (AC 220V/240V)	ATS-183
⚠ ★★	FU1 Fuse (T1.25A)	AEK-509
⚠ ★★	FU3 Fuse (T1.6A)	AEK-510
⚠ ★★	FU4, FU5 Fuse (T2.5A)	AEK-512
⚠	AC Power cord (AC 240V)	ADG-051

TAPE Assembly (GWM-463)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC501 PRE AMP	BA3416L
★★	IC502	BA3706
★★	IC701, IC702 TR-ARRAY	LB1214
★★	IC703 OP-AMP IC	M5218LF
★★	IC801 W-DECK CONTROL	PDE013
★★	IC601 DOLBY-B IC	TA7719P
★★	IC704 LOGIC IC	TC4052BP
★★	IC503 E-SW IC	μPC1290C
★	D805	RD5.1ESB
★	D701—D707, D801—D803,	1SS131
★	D806—D812	
★	D813	RD3.6ESB
★★	Q505, Q506, Q515, Q706, Q707, Q714, Q803—Q805, Q807	2SA1115 (2SA933S)
★★	Q801, Q802	2SA1515
★★	Q501—Q504, Q507—Q512, Q514, Q517, Q518, Q601, Q602, Q703—Q705, Q806, Q708—Q711, Q715—Q718	2SC2603 (2SC1740S)
★★	Q701, Q702	2SD438

COILS, TRANSFORMER AND FILTERS

Mark	Symbol & Description	Part No.
	F601, F602 DOLBY Filter	ATF-210
	L701 Inductor	ATH-094
	L704, L705 Inductor	ATH-108
	L702, L703 Inductor	ATH-119
	L706, L707 Trap coil	ATM-037
	T701 Bias oscillator transformer	ATX-043

SWITCHES

Mark	Symbol & Description	Part No.
★★	S701 Push switch (HIGH SPEED COPY ON/OFF, NOISE REDUCTION ON/OFF, REC MUTE ON/OFF)	ASG1001

CAPACITORS

Mark	Symbol & Description	Part No.
	C701	ACE-133
	C511—C514, C747, C748	CCCSL101J50 (CCDSL101J50)
	C751	CCCSL221J50 (CKCSL221J50)
	C501, C502	CCCSL271J50 (CCDSL271J50)
	C803	CCCSL680J50 (CCDSL680J50)
	C705, C706	CCDSL101K500
	C752, C753	CCDSL560K500
	C619, C620	CEASR33M50
	C529, C530, C533, C749	CEASR47M50
	C531, C617, C618	CEASOR1M50
	C505—C508, C601, C602, C730, C731, C750, C804, C806	CEAS010M50
	C532, C613, C614, C625, C746, C801, C536	CEAS100M25
	C535	CEAS101M10
	C534	CEAS101M16
	C623, C624, C711, C712, C732, C733	CEAS2R2M50
	C517, C518	CEAS220M16
	C509, C510, C622	CEAS221M10
	C715, C723	CEAS330M16
	C524, C525, C603, C604, C710	CEAS4R7M50
	C521, C537, C538, C621, C703, C704, C728, C729, C802	CEAS470M16
	C754	CEAS101M10
	C526, C527, C713, C714, C503, C504	CKCYB681K50 (CKDYB681K50)
	C605, C606	CKCYB821K50 (CKDYB821K50)
	C528, C745	CKDYF473Z50
	C707, C709, C735, C736	CQMA103J50
	C702	CQMA123K50
	C717, C722	CQMA123J50
	C522, C523, C708, C741, C742	CQMA153J50
	C609, C610	CQMA182J50
	C716, C738	CQMA183J50
	C519, C520	CQMA273J50
	C724, C725	CQMA332J50
	C515, C516, C607, C608	CQMA333J50
	C611, C612	CQMA472J50
	C615, C616, C718, C719, C720, C721	CQMA473J50
	C539, C540, C734, C737	CQMA682J50
	C726, C727	CQMA683J50
	C734, C737	CQMA822J50

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
★	VR703, VR704 Semi-fixed	VRTB6VS223
★	VR802, VR803 Semi-fixed	VRTM6H103
★	VR701, VR702 Semi-fixed	VRTM6H104
★	VR501—VR504 Semi-fixed	VRTM6H202
★	VR801, VR804 Semi-fixed	VRTM6H203
	R703, R825, R718	RD1/2PM□□□J
	R521, R540, R621, R733, R787	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

AF Assembly (GWM-466)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101, IC102 OP-AMP IC	M5218P
⚠ ★★	IC401 AUDIO IC	STK4171
⚠ ★★	IC402, IC403 REGURATOR IC	μPC78M12H
★★	Q401	2SB1015
★★	Q101—Q108, Q402, Q403	2SC1740S (2SC2603)
★★	Q404	2SD438
★	D401	KZL150
★	D402	RD13EB
⚠ ★	D407—D412	S5566 (11E2)
★	D417	RD5.1EB
★	D102, D103, D415	1SS131
★	D403	1S2471
⚠ ★	D413	4D4B44
★	D416	RD15ESB
	D414	RD16ES

SWITCHES AND RELLY

Mark	Symbol & Description	Part No.
⚠ ★★	S103 Push switch (POWER)	ASG-551
★★	S102 Push switch (STEREO WIDE)	ASG1002
★★	S101 Push switch (PHONO, CD, VIDEO, TUNER, TAPE)	SUJ8L22226L
⚠ ★	RY401 Relly	ASR-111

COILS

Mark	Symbol & Description	Part No.
	L401, L402 AF Choke coil	ATH-053

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C433 (0.01μF/AC400V)	ACG1002
⚠	C430, C435	ACG-019
⚠	C431, C432	ACH-252
	C101, C103, C110, C112, C405, C406	CCCSL101J50
	C141, C142	CCCSL121J50
	C424	CEASR47M100
	C117, C118, C128, C135, C136	CEAS010M50
	C119, C120, C130, C411, C413, C416, C426, C428, C310, C317	CEAS100M50
	C412, C434	CEAS101M50

Mark

⚠

RESISTC

NOTE: Wh
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Mark

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⚠
⚠

⚠

⚠

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⚠

⚠

OTHER

Mark

	Part No.
ixed	VRTM6H104
fixed	VRTM6H202
ixed	VRTM6H203
	RD1/2PM□□□J
733	RD1/4PM□□□J
	RD1/8PM□□□J

)

	Part No.
' IC	M5218P
	STK4171
TOR IC	µPC78M12H
	2SB1015
403	2SC1740S (2SC2603)
	2SD438
	KZL150
	RD13EB
	S5566 (11E2)
	RD5.1EB
	1SS131
	1S2471
	4D4B44
	RD15ESB
	RD16ES

	Part No.
WER)	ASG-551
	ASG1002
	SUJ8L22226L
IDEO,	
	ASR-111

	Part No.
coil	ATH-053

	Part No.
)	ACG1002
	ACG-019
	ACH-252
112,	CCCSL101J50
	CCCSL121J50
	CEASR47M100
135,	CEAS010M50
111, 128,	CEAS100M50
	CEAS101M50

Mark	Symbol & Description	Part No.
	C403, C404	CCCSL221J50
	C102, C107, C111, C115, C121, C122, C125, C126, C131, C132, C137, C138, C401, C402	CEAS2R2M50
	C310, C317	CEAS220M16
	C407—C410, C423, C425	CEAS221M25
⚠	C427	CEAS332M25
	C106, C116, C129, C420, C421	CEAS470M16
	C414, C429, C415, C417	CEAS470M25
	C422	CEAS471M6
	C127, C440	CKCYF473Z50 (CKDYF473Z50)
	C139, C140	CKCYB681K50
	C123, C124	CKCYX103M25
	C104, C113	CQMA242J50
	C418, C419	CQMA473K50
	C105, C114	CQMA822J50
	C133, C134	CKCYB391K50
	C108, C109	CEAS470M10

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
⚠	R441, R442	RD1/2PMFL100J
	R432, R437, R438	RD1/2PM□□□J
⚠	R419, R420	RD1/4PMFL100J
⚠	R435	RFA1/4PL101J
⚠	R421, R422	RD1/4PMF100J
⚠	R413	RD1/4PMFL222J
	R403—R411, R414, R415 R416—R418, R424, R425, R426, R428, R429, R430, R434	RD1/4PM□□□J
⚠	R412	RFA1/4PL101J
⚠	R433	RF1/2PS221J
⚠	R423	RS1LMF681J
	R443, R444	RS2LMF271J
⚠	R431, R436	RS2LMF4R7J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	2P Pin jack (OUTPUT)	AKB-093
	6P Pin jack (INPUT, PHONO, CD, VIDEO)	AKB-095
	4P Terminal (SPEAKER)	AKE-109
	Mini jack	AKN-034
	Rivet	AEC-940
	Screw	ABA-271
	Rivet	ACE-525
	Screw (3x8)	BBZ30P080FZK
	Screw (3x6)	PBZ30P060FMC

Mark	Symbol & Description	Part No.
	Screw (2x3)	PMZ20P030FZK
	Screw (3x6)	VBZ30P060FMC
	Screw (3x8)	VBZ30P080FMC
	Screw (3x6)	VMZ30P060FMC

EQ Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC301, IC302 AUDIO IC	BA3812L

CAPACITORS

Mark	Symbol & Description	Part No.
	C313, C326	CEASR15M50
	C315, C328	CEASR68M50
	C308, C323	CEAS101M10
	C301, C302	CEAS4R7M50
	C309	CEAS470M16
	C305, C318	CKCYB182K50 (CKDYB182K50)
	C307, C322	CKCYB331K50 (CKDYB331K50)
	C303, C320	CKCYB391K50 (CKDYB391K50)
	C312, C325	CKCYB392K50 (CKDYB392K50)
	C304, C321	CKCYB682K50 (CKDYB682K50)
	C306, C319	CKCYX153M25 (CKDYX153M25)
	C314, C327	CKCYX183M25 (CKDYX183M25)
	C316, C329	CKCX393M25 (CKCX393M25)
	C311, C324	CKCYX683M25 (CKDYX683M25)

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
★	VR301 Slide variable resistor	ACU1001
	Other resistors	RD1/8PM□□□J

MIC Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	Q202	2SA933S
★★	Q201	2SC1740S

CAPACITORS

Mark	Symbol & Description	Part No.
	C202	CEASR47M50
	C206	CEAS101M25
	C204	CEAS220M16

Mark	Symbol & Description	Part No.
	C205	CEAS470M25
	C201	CKCYB102K50 (CKDYB102K50)
	C203	CKCYB472K50 (CKDYB472K50)
	C207, C208	CKCYF473Z50 (CKDYF473Z50)

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	All resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	MIC jack (MIC)	AKN-060
	Mini jack (PHONES)	AKN1001

VR Assembly

Mark	Symbol & Description	Part No.
★	VR401 (VOLUME)	ACU1002

LED Assembly (A)

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
★★	D101 LED	AEL-443

LED Assembly (B)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	Q901	2SC2603 (2SC1740S)
★	D904 LED	AEL-382
★	D902, D903 LED	AEL-424
★	D901	1SS131

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	All resistors	RD1/8PM□□□J

LED Assembly (C)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★	D905, D907 LED	AEL-424
★	D906	1SS131

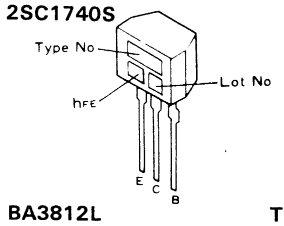
RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

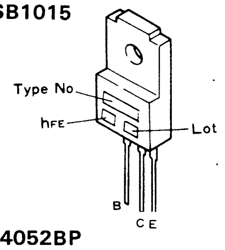
Mark	Symbol & Description	Part No.
	All resistors	RD1/8PM□□□J

External Apperance of Transistors and ICs

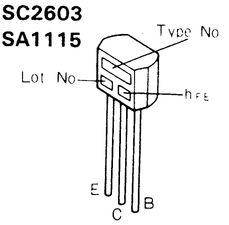
2SA933S
2SC1740S



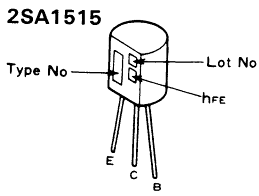
2SB1015



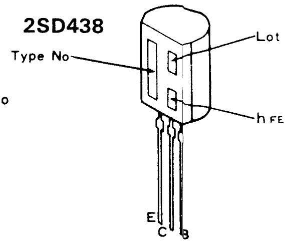
2SC2603
2SA1115



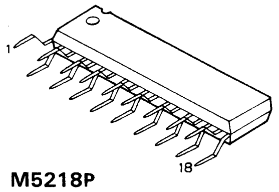
2SC2878
2SA1515



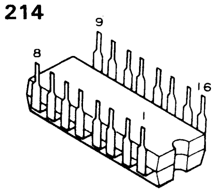
2SD438



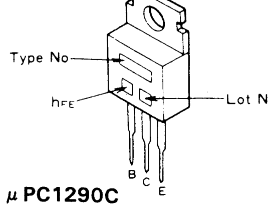
BA3812L
BA3416L



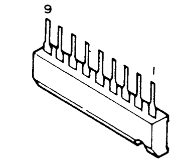
TC4052BP
LB1214



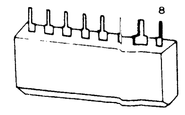
2SB834



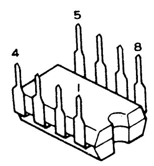
BA3706



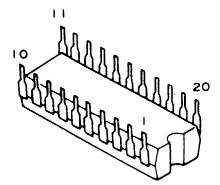
M5218LF



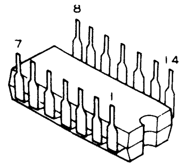
M5218P



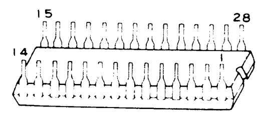
TA7719P



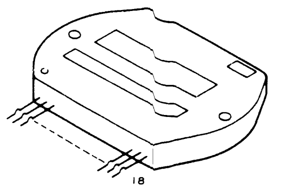
µPC1290C



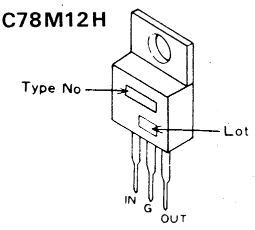
PDE013



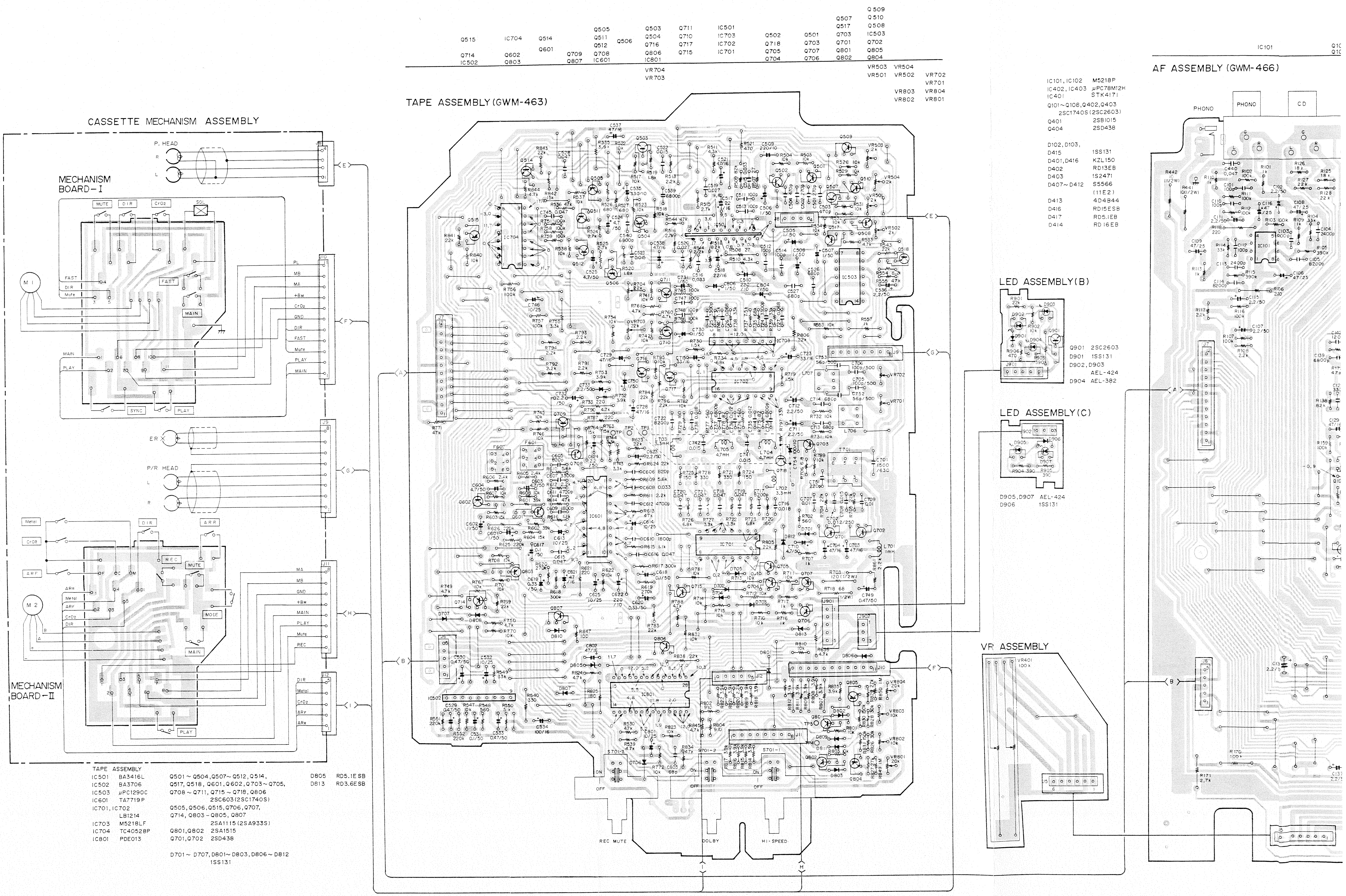
STK4171



µPC78M12H



8. P.C. BOARDS CONNECTION DIAGRAM


Q515 Q714 IC502
IC704 Q602 Q803
Q514 Q601
Q709 Q807
Q505 Q511 Q512 Q708 IC601
Q506
Q503 Q504 Q716 Q806 IC801 VR704 VR703
Q711 Q710 Q717 Q715
IC501 IC703 IC702 IC701
Q502 Q718 Q705 Q704
Q501 Q703 Q707 Q706
Q507 Q517 Q703 Q701 Q801 Q802
Q509 Q510 Q508 IC503 Q702 Q805 Q804
VR503 VR501
VR504 VR502 VR803 VR802
VR702 VR701 VR804 VR801
TAPE ASSEMBLY (GWM-463)
CASSETTE MECHANISM ASSEMBLY
P. HEAD
MECHANISM BOARD-I
MECHANISM BOARD-II
P/R HEAD
ER
M1
M2
REC MUTE
DOLBY
HI-SPEED
LED ASSEMBLY(B)
LED ASSEMBLY(C)
VR ASSEMBLY
AF ASSEMBLY (GWM-466)
PHONO
CD
IC101

TAPE ASSEMBLY

IC501	BA3416L
IC502	BA3706
IC503	µPC1290C
IC601	TA7719P
IC701, IC702	LB1214
IC703	M5218LF
IC704	TC4052BP
IC801	PDE013

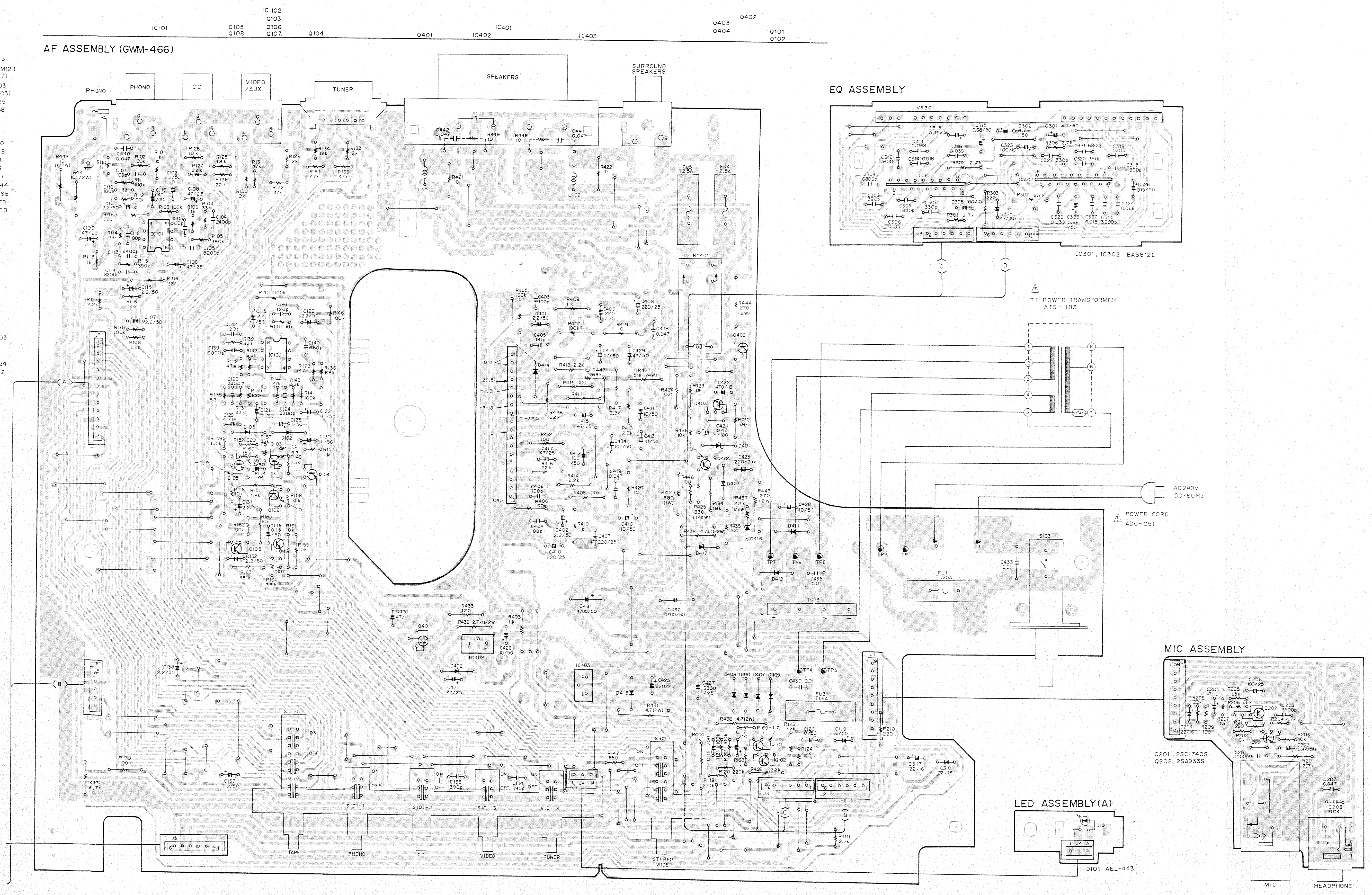
Q501 ~ Q504, Q507 ~ Q512, Q514, Q517, Q518, Q601, Q602, Q703 ~ Q705, Q708 ~ Q711, Q715 ~ Q718, Q806	2SC603(2SC1740S)
Q505, Q506, Q515, Q706, Q707, Q714, Q803 – Q805, Q807	2SA1115(2SA933S)
Q801, Q802	2SA1515
Q701, Q702	2SD438
D701 ~ D707, D801 ~ D803, D806 ~ D812	1SS131

D805	RD5.1ESB
D813	RD3.6ESB

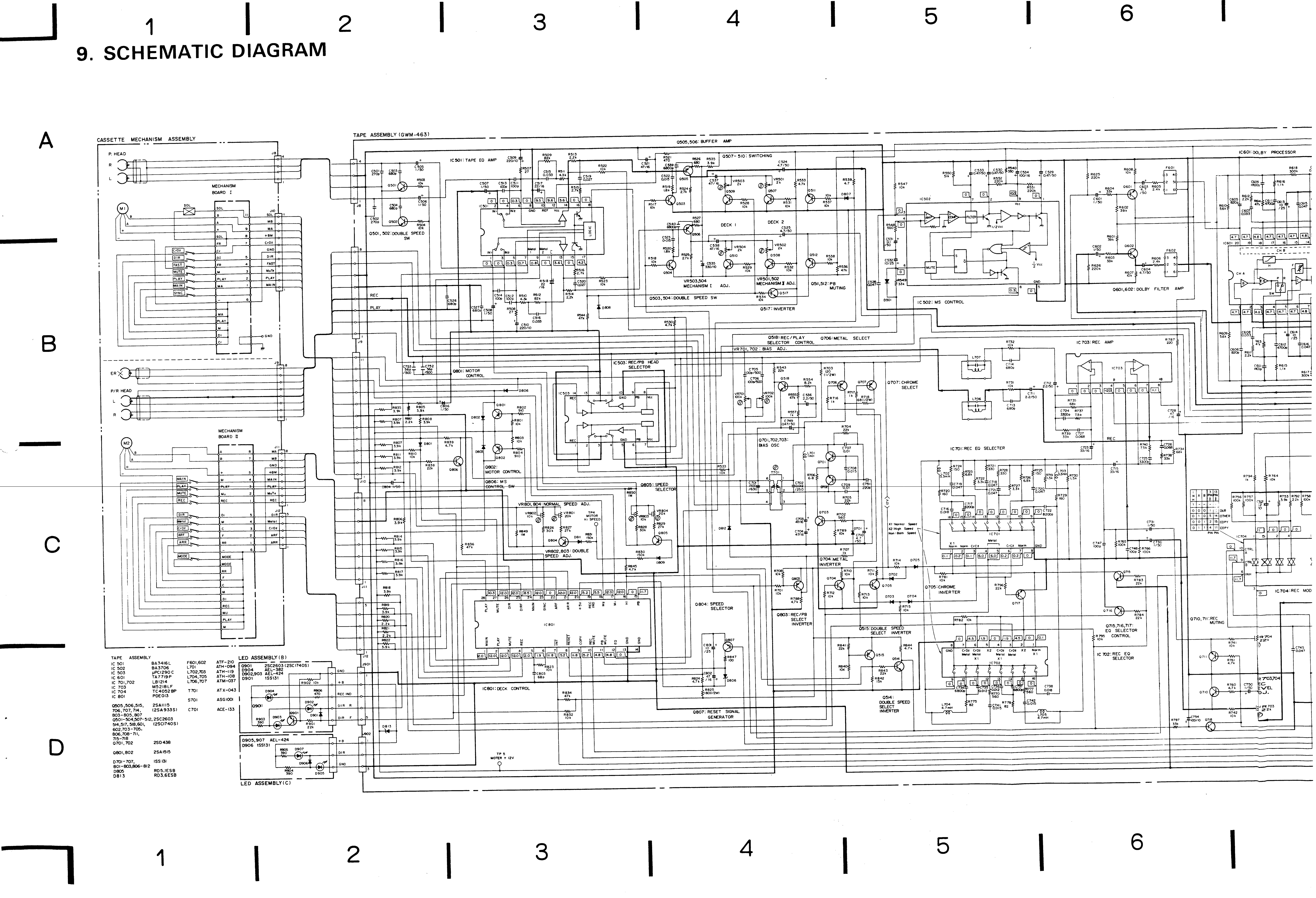
IC101, IC102	M5218P
IC402, IC403	µPC78M12H
IC401	STK4171
Q101 ~ Q108, Q402, Q403	2SC1740S(2SC2603)
Q401	2SB1015
Q404	2SD438
D102, D103, D415	1SS131
D401, D416	KZL150
D402	RD13EB
D403	1S2471
D407 ~ D412	S5566 (11E2)
D413	4D4B44
D416	RD15ESB
D417	RD5.1EB
D414	RD16EB

Q901	2SC2603
D901	1SS131
D902, D903	AEL-424
D904	AEL-382

D905, D907	AEL-424
D906	1SS131


IC101
Q105
Q108
IC102
Q103
Q106
Q107
Q104
Q401
IC402
IC401
IC403
Q403
Q404
Q402
Q101
Q102
AF ASSEMBLY (GWM-466)
PHONO
PHONO
CD
VIDEO /AUX
TUNER
SPEAKERS
SURROUND SPEAKERS
EQ ASSEMBLY
VR301
IC301, IC302 BA3812L
FU4 T2.5A
FU5 T2.5A
RY401
T1 POWER TRANSFORMER ATS-183
AC240V 50/60Hz
POWER CORD ADG-051
S103
FU1 T1.25A
FU3 T1.6A
D413
TP1
TP2
TP4
TP5
TP6
TP7
TP8
S101-5
S101-1
S101-2
S101-3
S101-4
S102
J1
J2
J3
J4
J5
J6
J7
TAPE
PHONO
CD
VIDEO
TUNER
STEREO WIDE
ON
OFF
MIC ASSEMBLY
Q201 2SC1740S
Q202 2SA933S
MIC
HEADPHONE
LED ASSEMBLY(A)
D101
D101 AEL-443
A
B
C
D
6
7
8
9
10
11
12

9. SCHEMATIC DIAGRAM


1
2
3
4
5
6
A
B
C
D
CASSETTE MECHANISM ASSEMBLY
P. HEAD
MECHANISM BOARD I
MECHANISM BOARD II
ER
P/R HEAD
TAPE ASSEMBLY (GWM-463)
IC501: TAPE EQ AMP
Q501, 502: DOUBLE SPEED SW
Q505, 506: BUFFER AMP
Q507-510: SWITCHING
DECK 1
DECK 2
VR503, 504 MECHANISM I ADJ.
VR501, 502 MECHANISM II ADJ.
Q503, 504: DOUBLE SPEED SW
Q511, 512: PB MUTING
Q517: INVERTER
IC502: MS CONTROL
IC601: DOLBY PROCESSOR
Q601, 602: DOLBY FILTER AMP
Q518: REC/PLAY SELECTOR CONTROL
Q706: METAL SELECT
VR701, 702: BIAS ADJ.
IC503: REC/PB HEAD SELECTOR
Q801: MOTOR CONTROL
Q802: MOTOR CONTROL
Q806: MS CONTROL SW
Q805: SPEED SELECTOR
VR801, 804: NORMAL SPEED ADJ.
VR802, 803: DOUBLE SPEED ADJ.
TP4 MOTOR HI SPEED
Q707: CHROME SELECT
Q701, 702, 703: BIAS OSC
IC703: REC AMP
IC701: REC EQ SELECTER
Q704: METAL INVERTER
Q705: CHROME INVERTER
Q803: REC/PB SELECT INVERTER
Q804: SPEED SELECTOR
IC801
IC801: DECK CONTROL
Q515: DOUBLE SPEED SELECT INVERTER
Q514: DOUBLE SPEED SELECT INVERTER
Q715, 716, 717: EQ SELECTOR CONTROL
IC702: REC EQ SELECTOR
IC704: REC MOD
Q710, 711: REC MUTING
Q807: RESET SIGNAL GENERATOR
TP5 MOTOR + 12V
LED ASSEMBLY (B)
LED ASSEMBLY (C)

TAPE ASSEMBLY

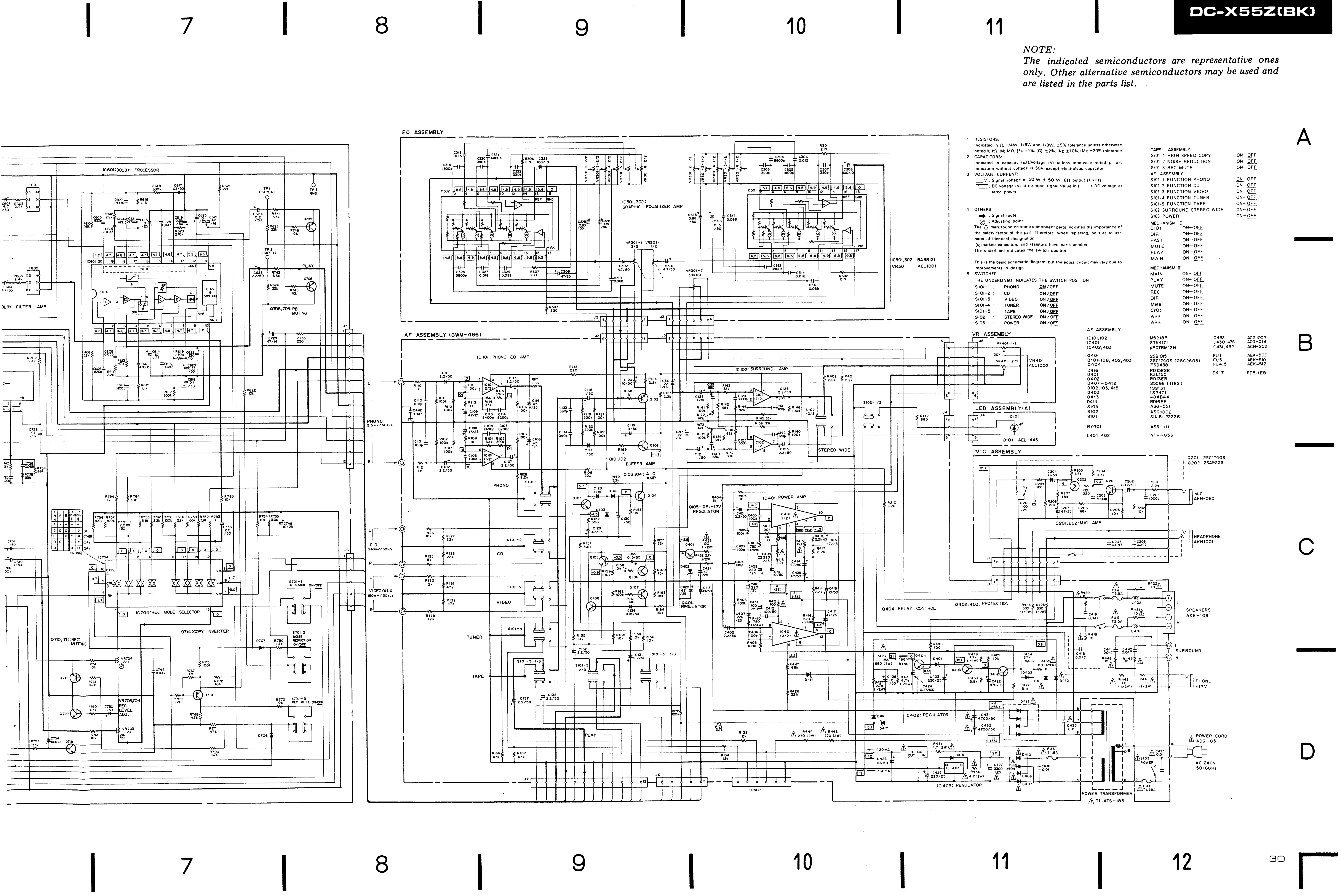
IC 501	BA3416L	F601,602	ATF-210
IC 502	BA3706	L701	ATH-094
IC 503	μPC1290C	L702,703	ATH-119
IC 601	TA7719P	L704,705	ATH-108
IC 701,702	LB1214	L706,707	ATM-037
IC 703	M5218LF		
IC 704	TC4052BP	T701	ATX-043
IC 801	PDE013		
		S701	ASG1001
Q505,506,515, 706,707,714, 803-805,807	2SA1115 (2SA933S)	C701	ACE-133
Q501-504,507-512, 514,517,518,601, 602,703-705, 806,708-711, 715-718	2SC2603 (2SC1740S)		
Q701,702	2SD438		
Q801,802	2SA1515		
D701-707, 801-803,806-812	1SS131		
D805	RD5.1ESB		
D813	RD3.6ESB		

LED ASSEMBLY (B)

Q901	2SC2603 (2SC1740S)
D904	AEL-382
D902,903	AEL-424
D901	1SS131

D905,907	AEL-424
D906	1SS131

NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.


7
8
9
10
11
12
A
B
C
D
EQ ASSEMBLY
IC301,302: GRAPHIC EQUALIZER AMP
IC301,302 BA3812L
VR301 ACU1001
IC601: DOLBY PROCESSOR
DOLBY FILTER AMP
Q708,709: PB MUTING
PLAY
AF ASSEMBLY (GWM-466)
IC101: PHONO EQ AMP
IC102: SURROUND AMP
STEREO WIDE
Q101,102: BUFFER AMP
Q103,104: ALC AMP
Q105-108: -12V REGULATOR
IC401: POWER AMP
Q401: REGULATOR
Q404: RELAY CONTROL
Q402,403: PROTECTION
IC402: REGULATOR
IC403: REGULATOR
PHONO 2.5mV/50kΩ
CD 240mV/30kΩ
VIDEO/AUX 150mV/30kΩ
TUNER
TAPE
IC704: REC MODE SELECTOR
Q714: COPY INVERTER
Q710,711: REC MUTING
VR703,704 REC LEVEL ADJ.
S701-1 Hi-Speed ON/OFF
S701-2 NOISE REDUCTION ON/OFF
S701-3 REC MUTE ON/OFF
VR ASSEMBLY
VR401 ACU1002
LED ASSEMBLY(A)
D101 AEL-443
MIC ASSEMBLY
Q201 2SC1740S
Q202 2SA933S
Q201,202: MIC AMP
MIC AKN-060
HEADPHONE AKN1001
SPEAKERS AKE-109
SURROUND
PHONO +12V
POWER CORD ADG-051
AC 240V 50/60Hz
S103 (POWER)
POWER TRANSFORMER
T1: ATS-183
FU1 T1.25A
FU3 T1.6A
FU4 T2.5A
FU5 T2.5A

1. RESISTORS:
   Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K); ±10%, (M); ±20% tolerance
2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE, CURRENT:
   V : Signal voltage at 50 W + 50 W, 8Ω output (1 kHz)
   : DC voltage (V) at no input signal Value in ( ) is DC voltage at rated power.
4. OTHERS:
   ➡ : Signal route.
   ⊘ : Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts unmbers.
   The underlined indicates the switch position.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.
5. SWITCHES:
   THE UNDERLINED INDICATES THE SWITCH POSITION

S101-1	:	PHONO	ON/OFF
S101-2	:	CD	ON/OFF
S101-3	:	VIDEO	ON/OFF
S101-4	:	TUNER	ON/OFF
S101-5	:	TAPE	ON/OFF
S102	:	STEREO WIDE	ON/OFF
S103	:	POWER	ON/OFF

TAPE ASSEMBLY

S701-1 HIGH SPEED COPY	ON- OFF
S701-2 NOISE REDUCTION	ON-OFF
S701-3 REC MUTE	ON-OFF

AF ASSEMBLY

S101-1 FUNCTION PHONO	ON- OFF
S101-2 FUNCTION CD	ON-OFF
S101-3 FUNCTION VIDEO	ON-OFF
S101-4 FUNCTION TUNER	ON- OFF
S101-5 FUNCTION TAPE	ON- OFF
S102 SURROUND STEREO WIDE	ON- OFF
S103 POWER	ON- OFF

MECHANISM I

CrO_2	ON-OFF
DIR	ON-OFF
FAST	ON-OFF
MUTE	ON-OFF
PLAY	ON-OFF
MAIN	ON-OFF

MECHANISM II

MAIN	ON-OFF
PLAY	ON-OFF
MUTE	ON-OFF
REC	ON-OFF
DIR	ON-OFF
Metal	ON-OFF
CrO_2	ON-OFF
AR_F	ON-OFF
AR_R	ON-OFF

AF ASSEMBLY

IC101,102	M5218P	C433	ACG1002
IC401	STK4171	C430,435	ACG-019
IC402,403	μPC78M12H	C431,432	ACH-252
Q401	2SB1015	FU1	AEK-509
Q101-108, 402, 403	2SC1740S (2SC2603)	FU3	AEK-510
Q404	2SD438	FU4,5	AEK-512
D416	RD15ESB	D417	RD5.1EB
D401	KZL150		
D402	RD13EB		
D407-D412	S5566 (11E2)		
D102,103, 415	1SS131		
D403	1S2471		
D413	4D4B44		
D414	RD16EB		
S103	ASG-551		
S102	ASG1002		
S101	SUJ8L22226L		
RY401	ASR-111		
L401, 402	ATH-053		

10. CIRCUIT DESCRIPTIONS

10-1. BASIC BLOCKS OF DC-X55Z AND DC-X33Z SIGNAL SYSTEMS

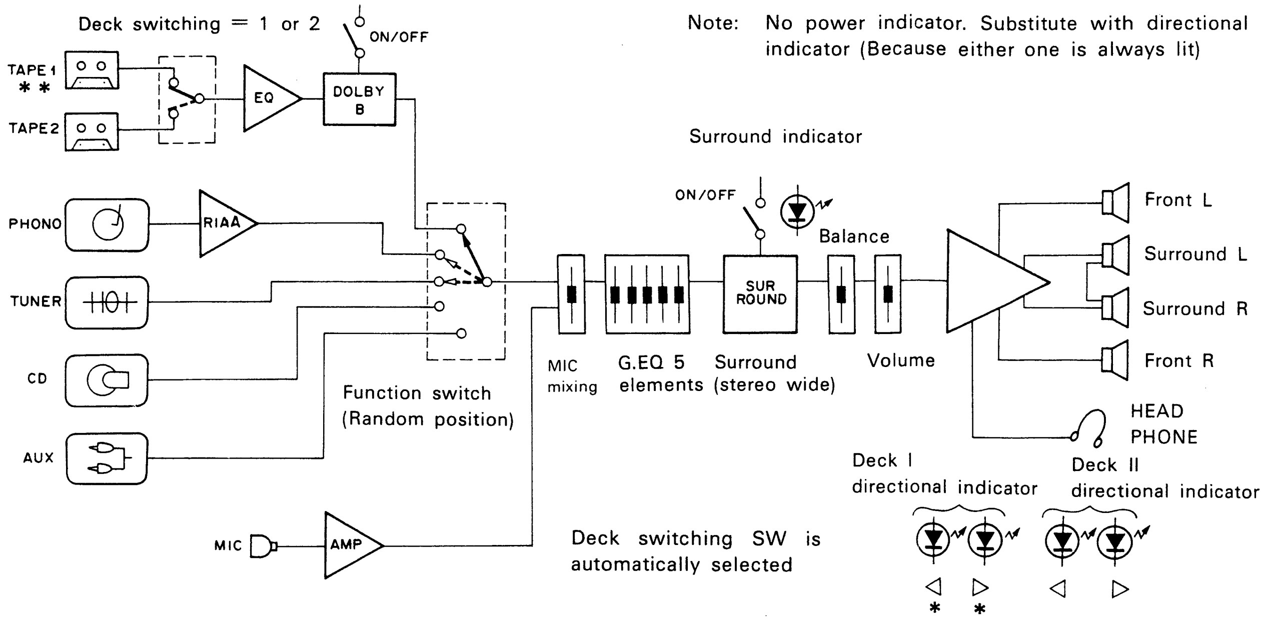
The difference of the two is mainly at the deck section. Table 10-1 indicates the comparative table. As the DC-X33Z is a lower model of DC-X55Z, description will be given mainly on the DC-X55Z.

Table. 10-1

		DC-X33Z	DC-X55Z	Remark
Mechanism structure		Single (Mechanism 2*1)	Double (Mechanism 1*2 and 2)	*1: Approximately similar to the mechanism 2 of DC-X55Z (REC/PB mechanism) *2: Playback only
Head		E.H and REC/PB H	E.H and REC/PB H . . . Mechanism 2 side PB H . . . . . Mechanism 1 side	
Motor		Rotation number is adjusted by the main body of motor.	Rotation number is adjusted on the board separate from the motor. (Double speed/normal speed)	
Main functions	Copy function	×	○(Double speed copy is enable)	
	Dubbing function	×	○	
	Relay play	×	○	
	REC MUTE	×	○	
Main IC	Control microcomputer	PDE013	PDE013	
	Dolby IC	TA7719	TA7719	
	Others	×	TC4052BP	IC704 is an IC provided for copy and dubbing functions.

The signal system basic block is herein indicated so as to comprehend the DC-X55Z signal system from 10-1-1 to 10-1-4.

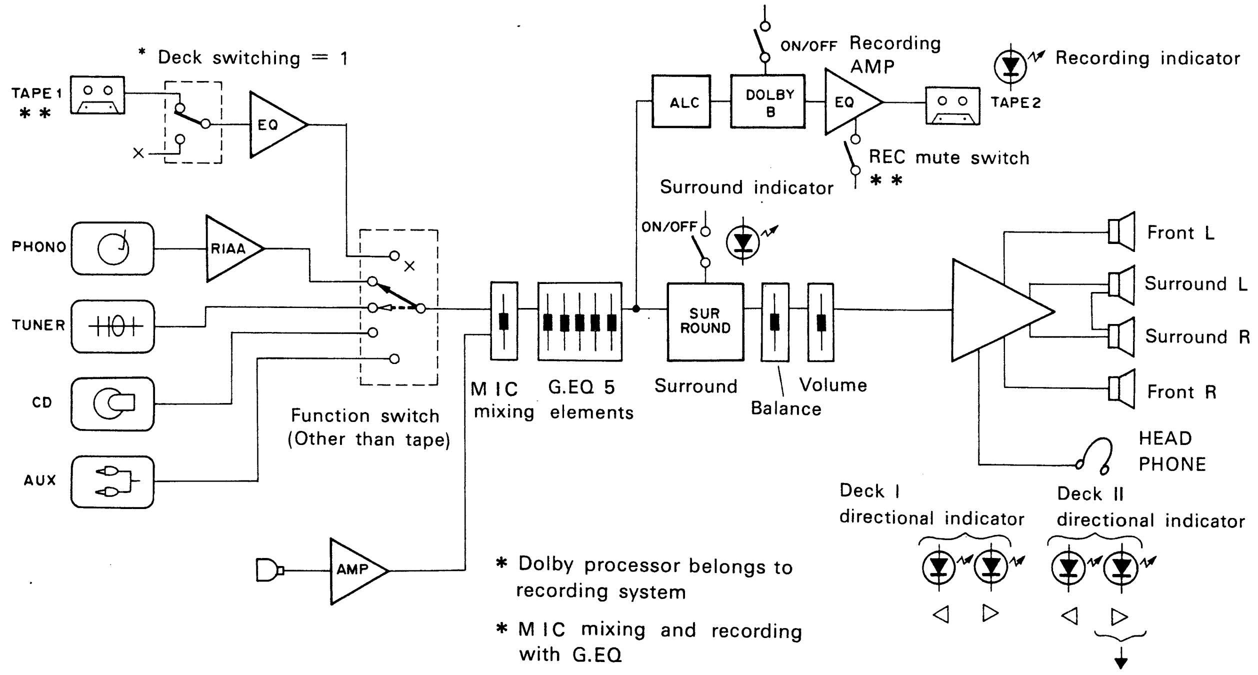
∗ Is not the DC-X33Z model.


Deck switching = 1 or 2
ON/OFF
TAPE 1 * *
TAPE 2
EQ
DOLBY B
PHONO
RIAA
TUNER
CD
AUX
Function switch (Random position)
MIC mixing
G.EQ 5 elements
Surround (stereo wide)
ON/OFF
Surround indicator
SUR ROUND
Balance
Volume
Front L
Surround L
Surround R
Front R
HEAD PHONE
MIC
AMP
Deck I directional indicator
Deck II directional indicator
∗ ∗

Note: No power indicator. Substitute with directional indicator (Because either one is always lit)

Deck switching SW is automatically selected

Fig. 10-1-1 Signal system basic block during playback (DC-X55Z, DC-X33Z)

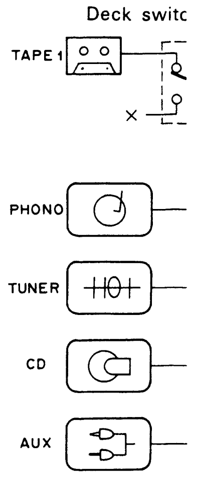

∗ Deck switching = 1
TAPE 1 * *
EQ
PHONO
RIAA
TUNER
CD
AUX
Function switch (Other than tape)
AMP
MIC mixing
G.EQ 5 elements
ALC
DOLBY B
ON/OFF
Recording AMP
EQ
TAPE 2
Recording indicator
REC mute switch * *
Surround indicator
ON/OFF
SUR ROUND
Surround
Volume
Balance
Front L
Surround L
Surround R
Front R
HEAD PHONE
Deck I directional indicator
Deck II directional indicator

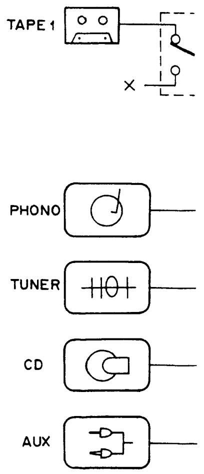
∗ Dolby processor belongs to recording system

∗ MIC mixing and recording with G.EQ

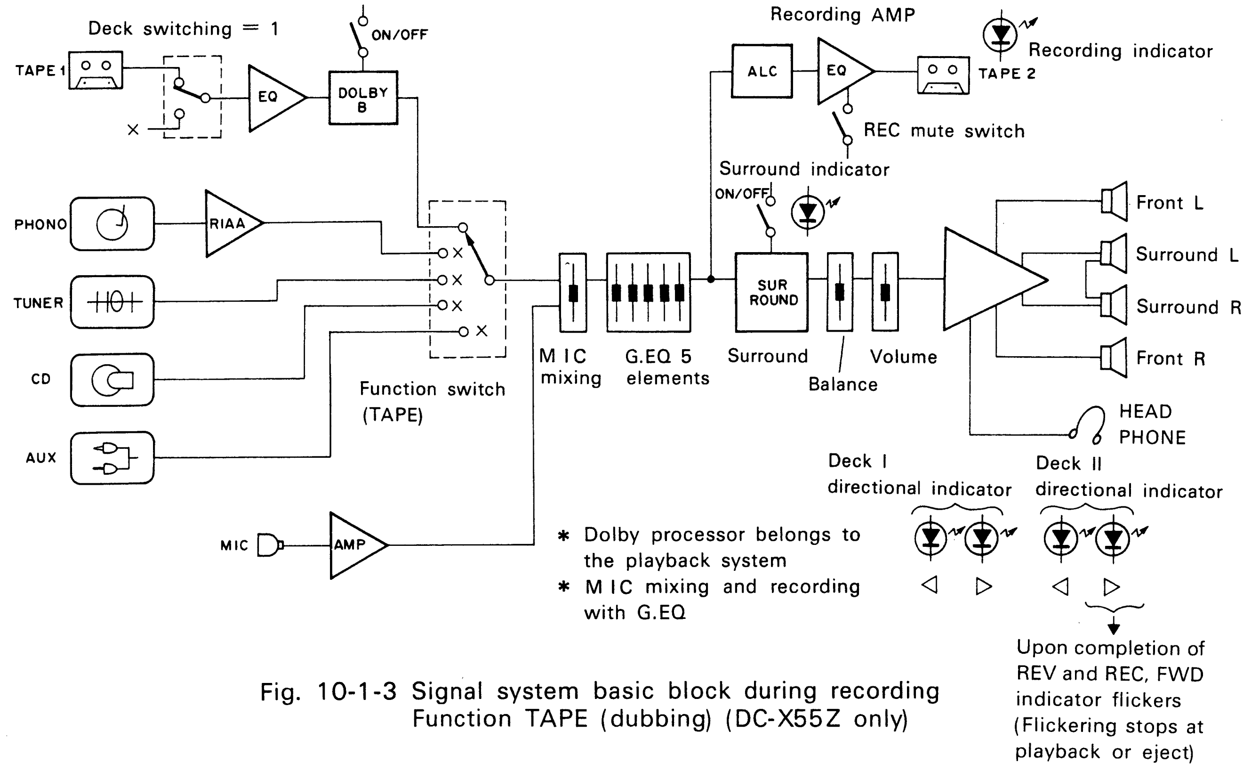
Upon completion of REV and REC, FWD indicator flickers (Flickering stops at playback or eject)

Fig. 10-1-2 Signal system basic block during recording Function TAPE (DC-X55Z, DC-X33Z)


Deck switc
TAPE 1
PHONO
TUNER
CD
AUX


TAPE 1
PHONO
TUNER
CD
AUX

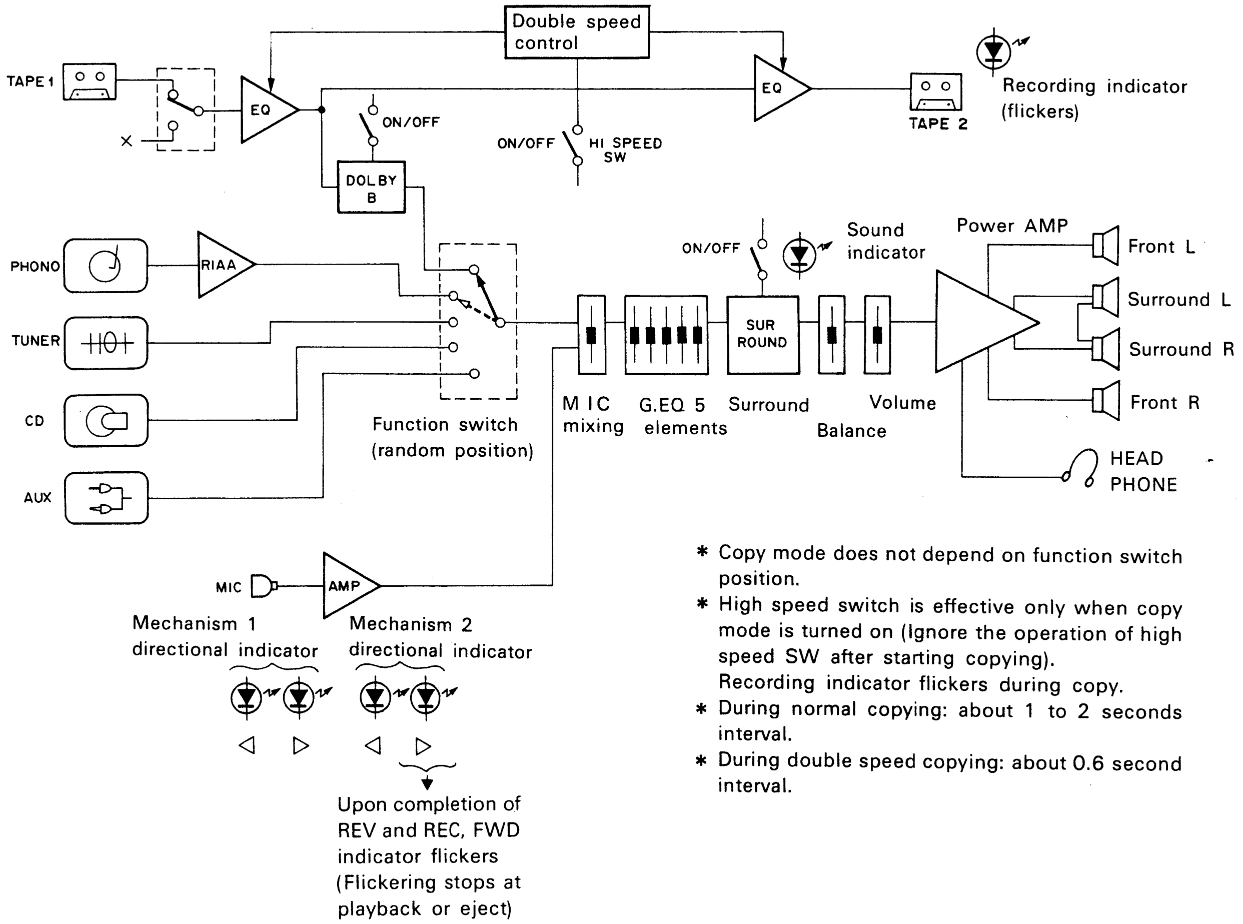
Mechai
directic


Deck switching = 1
ON/OFF
TAPE 1
EQ
DOLBY B
Recording AMP
ALC
EQ
TAPE 2
Recording indicator
REC mute switch
Surround indicator
ON/OFF
PHONO
RIAA
TUNER
CD
AUX
Function switch (TAPE)
MIC mixing
G.EQ 5 elements
SUR ROUND
Surround
Balance
Volume
Front L
Surround L
Surround R
Front R
HEAD PHONE
MIC
AMP
Deck I directional indicator
Deck II directional indicator

- * Dolby processor belongs to the playback system
- * MIC mixing and recording with G.EQ

Upon completion of REV and REC, FWD indicator flickers (Flickering stops at playback or eject)

Fig. 10-1-3 Signal system basic block during recording Function TAPE (dubbing) (DC-X55Z only)


Double speed control
TAPE 1
EQ
ON/OFF
DOLBY B
ON/OFF
HI SPEED SW
EQ
TAPE 2
Recording indicator (flickers)
PHONO
RIAA
TUNER
CD
AUX
Function switch (random position)
ON/OFF
Sound indicator
Power AMP
MIC mixing
G.EQ 5 elements
SUR ROUND
Surround
Balance
Volume
Front L
Surround L
Surround R
Front R
HEAD PHONE
MIC
AMP
Mechanism 1 directional indicator
Mechanism 2 directional indicator

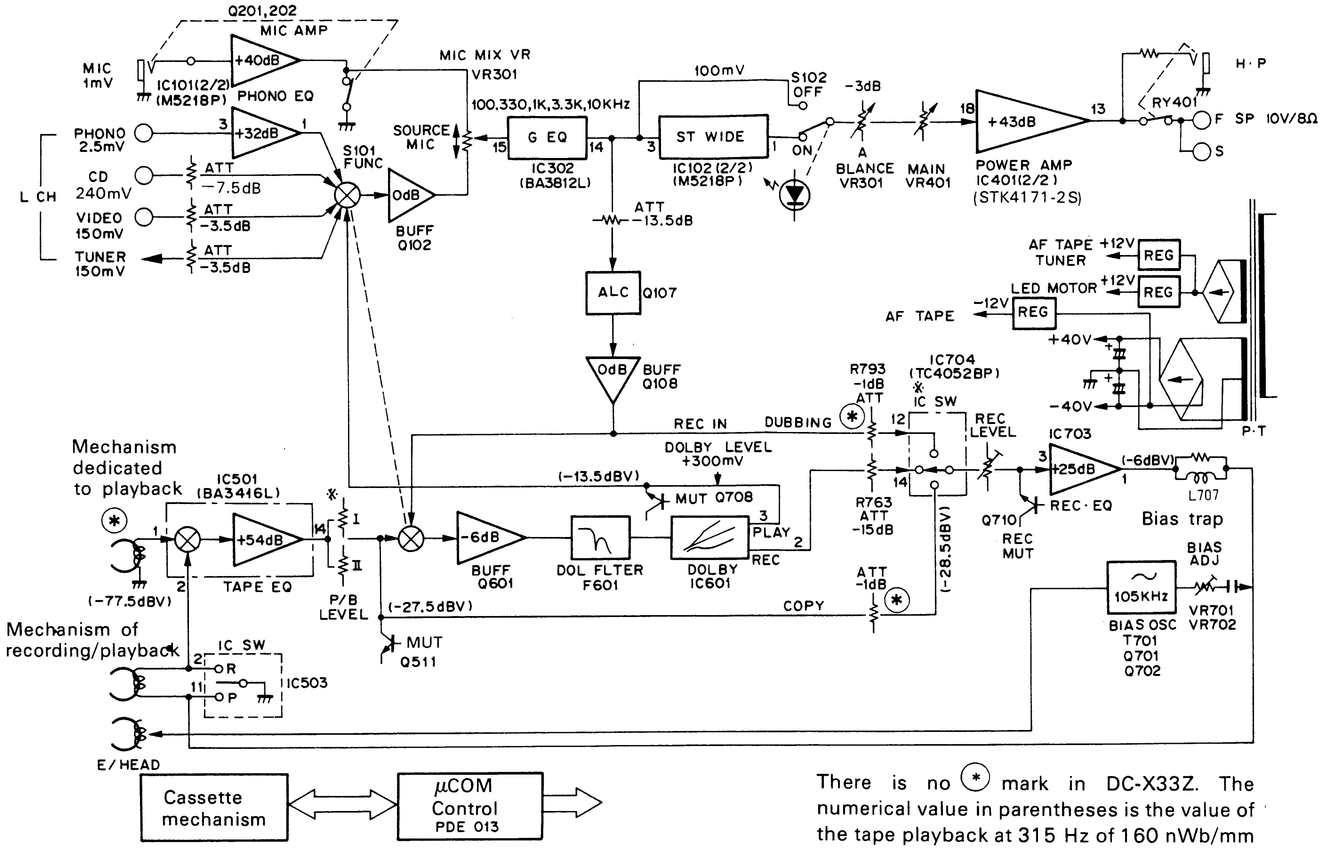
Upon completion of REV and REC, FWD indicator flickers (Flickering stops at playback or eject)

- * Copy mode does not depend on function switch position.
- * High speed switch is effective only when copy mode is turned on (Ignore the operation of high speed SW after starting copying). Recording indicator flickers during copy.
- * During normal copying: about 1 to 2 seconds interval.
- * During double speed copying: about 0.6 second interval.

Fig. 10-1-4 Signal system basic block during copy (DC-X55Z only)

10-2. BLOCK DIAGRAM

Fig. 10-2-1 indicates the block diagram of DC-X55Z. Take note that there is no ⊛ mark in the Fig. of DC-X33Z.


Q201,202
MIC AMP
MIC 1mV
+40dB
IC101(2/2) (M5218P)
PHONO EQ
MIC MIX VR VR301
100mV
S102 OFF
-3dB
100,330,1K,3.3K,10KHz
L CH
PHONO 2.5mV
+32dB
CD 240mV
ATT −7.5dB
VIDEO 150mV
ATT −3.5dB
TUNER 150mV
ATT −3.5dB
S101 FUNC
0dB
BUFF Q102
SOURCE MIC
G EQ
IC302 (BA3812L)
ST WIDE
IC102 (2/2) (M5218P)
ON
ATT −13.5dB
A BLANCE VR301
MAIN VR401
+43dB
POWER AMP IC401(2/2) (STK4171-2S)
RY401
H·P
F SP 10V/8Ω
S
AF TAPE TUNER +12V
REG
LED MOTOR +12V
REG
AF TAPE −12V
REG
+40V
−40V
P·T
ALC Q107
0dB BUFF Q108
REC IN
DUBBING
R793 -1dB ATT
IC704 (TC4052BP)
IC SW
REC LEVEL
IC703
+25dB
(-6dBV)
L707
Bias trap
REC·EQ
Q710
REC MUT
DOLBY LEVEL +300mV
(−13.5dBV)
MUT Q708
PLAY
REC
R763 ATT -15dB
(−28.5dBV)
Mechanism dedicated to playback
IC501 (BA3416L)
+54dB
TAPE EQ
(−77.5dBV)
P/B LEVEL
-6dB
BUFF Q601
DOL FLTER F601
DOLBY IC601
(−27.5dBV)
COPY
ATT -1dB
MUT Q511
Mechanism of recording/playback
IC SW
R
P
IC503
BIAS ADJ
105KHz
BIAS OSC T701 Q701 Q702
VR701 VR702
E/HEAD
Cassette mechanism
µCOM Control PDE 013

There is no ⊛ mark in DC-X33Z. The numerical value in parentheses is the value of the tape playback at 315 Hz of 160 nWb/mm 0dB.

Fig. 10-2-1 Block diagram

The characteristic of this model is that it has only one system in the deck playback system and that this system uses the respective modes of operation separately so that the mechanism 1 does not overlap with the signal system of mechanism 2.

10-3. LEVEL DIAGRAM

Fig. 10-3-1 shows the level diagram.

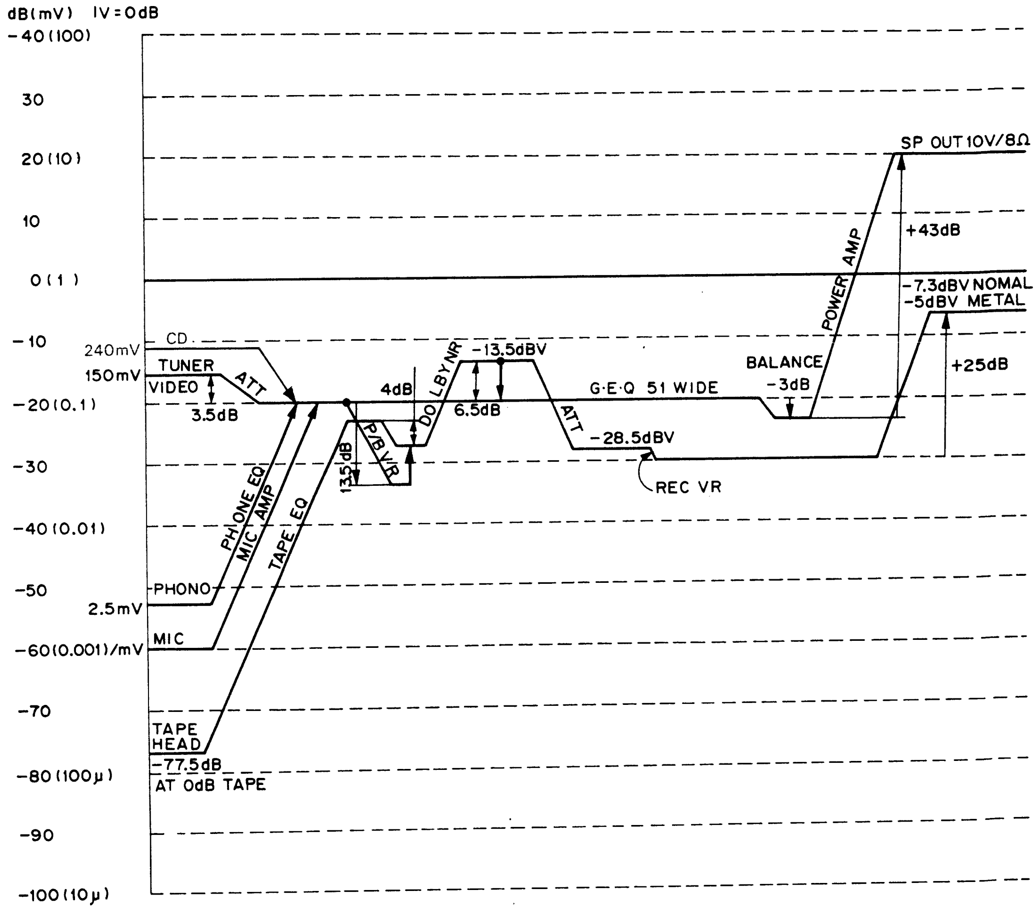

dB(mV) 1V=0dB
-40(100)
30
20(10)
10
0(1)
-10
-20(0.1)
-30
-40(0.01)
-50
-60(0.001)/mV
-70
-80(100µ)
-90
-100(10µ)
240mV
150mV
2.5mV
CD
TUNER
VIDEO
3.5dB
ATT
PHONO
MIC
TAPE HEAD
-77.5dB AT 0dB TAPE
PHONE EQ
MIC AMP
TAPE EQ
13.5dB
P/B VR
4dB
DOLBY NR
-13.5dBV
6.5dB
G·E·Q 51 WIDE
ATT
-28.5dBV
REC VR
BALANCE
-3dB
POWER AMP
+43dB
SP OUT 10V/8Ω
-7.3dBV NOMAL
-5dBV METAL
+25dB

Fig. 10-3-1 Level diagram

10-4. SURROUND AND STEREO WIDE CIRCUIT

Fig. 10-4-1 shows the block diagram of the surround and stereo wide circuits.

This circuit leaves the normal component of the medium and low bands as is, and adds the inverse plase to the high and medium band components (There are many reverberal components and ambiance components). In this manner, the normal position of the bass, vocal, etc. become devoid of bad effects, and the sound is heard widening toward the left and right. Also, if a surround loudspeaker is used, one gets the feeling of being surrounded by the sound.

Regarding Fig. 10-4-1

1. The input signals of L and R go through a filter which suppresses the respective medium and high band components.
2. Creates an L and R signal component difference and perform addition to the L-ch and subtraction to the R-ch.
3. By performing such calculations, it emphasizes the differential signal components in the medium and high bands in the original source, and obtains a wide sound which is not unnatural (distorted feeling).

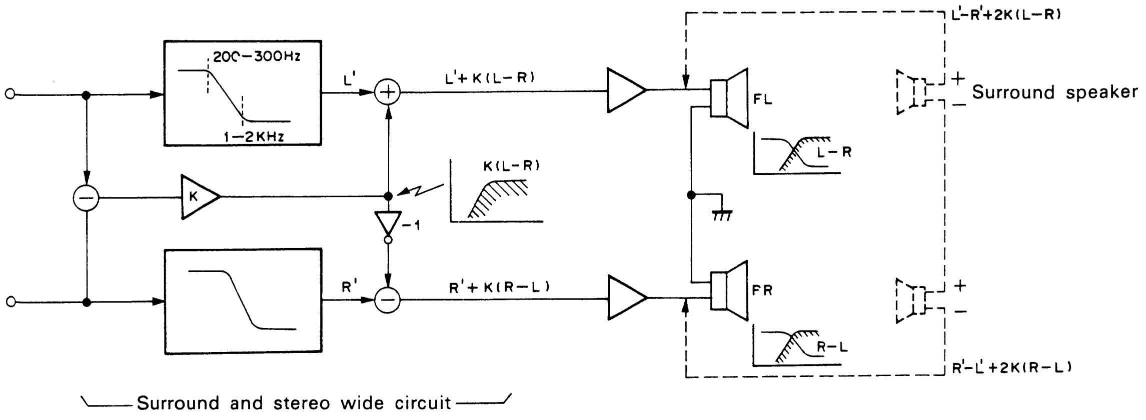
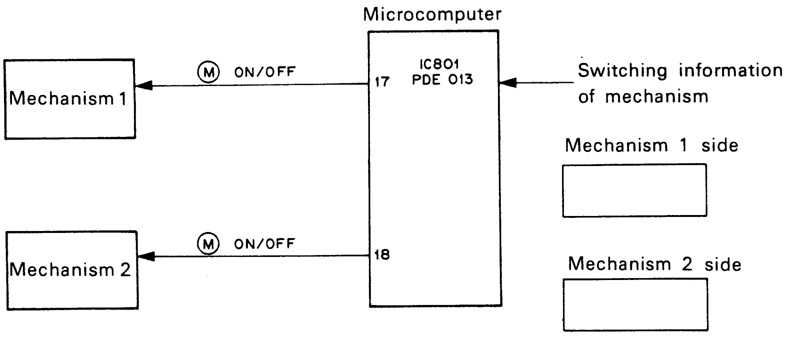

200−300Hz
1−2KHz
L'
L'+K(L−R)
K
K(L−R)
−1
R'
R'+K(R−L)
FL
L−R
FR
R−L
L'−R'+2K(L−R)
Surround speaker
+
−
R'−L'+2K(R−L)
Surround and stereo wide circuit

Fig. 10-4-1 Surround and stereo wide circuit block diagram

10-5. MICROCOMPUTER FOR CONTROL

The microcomputer IC801 (PDE013) of DC-X55Z gives the on-off commands of the motor only against the mechanism (mechanism 1 and mechanism 2). Also as input, it observes the switch information of the mechanism. The on-off operation of the motor is carried out with this switch information. See Fig. 10-5-1.

In addition, this microcomputer also controls the circuit block (See Fig. 10-5-2). In 2 10-5-3, there is a list of the typical timing chart, pin name and functions.


Microcomputer
IC801
PDE 013
17
18
Ⓜ ON/OFF
Ⓜ ON/OFF
Mechanism 1
Mechanism 2
Switching information of mechanism
Mechanism 1 side
Mechanism 2 side

*** SW information on the mechanism 1 side**
Main SW→Same as mechanism 2
Play SW→Same as mechanism 2
Mute SW→Same as mechanism 2
First SW→On when the knob of FF or REW is being pressed
Direction SW→Same as mechanism 2
Chrome SW→Off when chrome or metal

*** SW information on the mechanism 2 side**
(Except stop or pause)
Main SW→On when knob is turned on
Play SW→On when the play knob is pressed
Mute SW→On when the head and tape is in contact
REC SW→On when REC knob is pressed
Direction SW→On when in reverse playback
Anti-REC A SW→Off when claw on A side is broken
Anti-REC B SW→Off when claw on B side is broken
Mode SW→Off when☐ ☐display is [→]
Chrome SW→Off when chrome and metal
Metal SW→Off when metal

Fig. 10-5-1 Function of control microcomputer

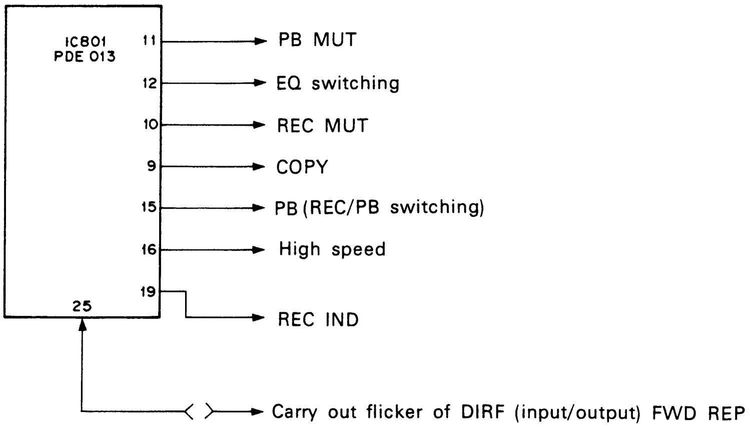

IC801
PDE 013
11
12
10
9
15
16
19
25
PB MUT
EQ switching
REC MUT
COPY
PB (REC/PB switching)
High speed
REC IND
Carry out flicker of DIRF (input/output) FWD REP

Fig. 10-5-2 Control of microcomputer circuit block dedicated to control

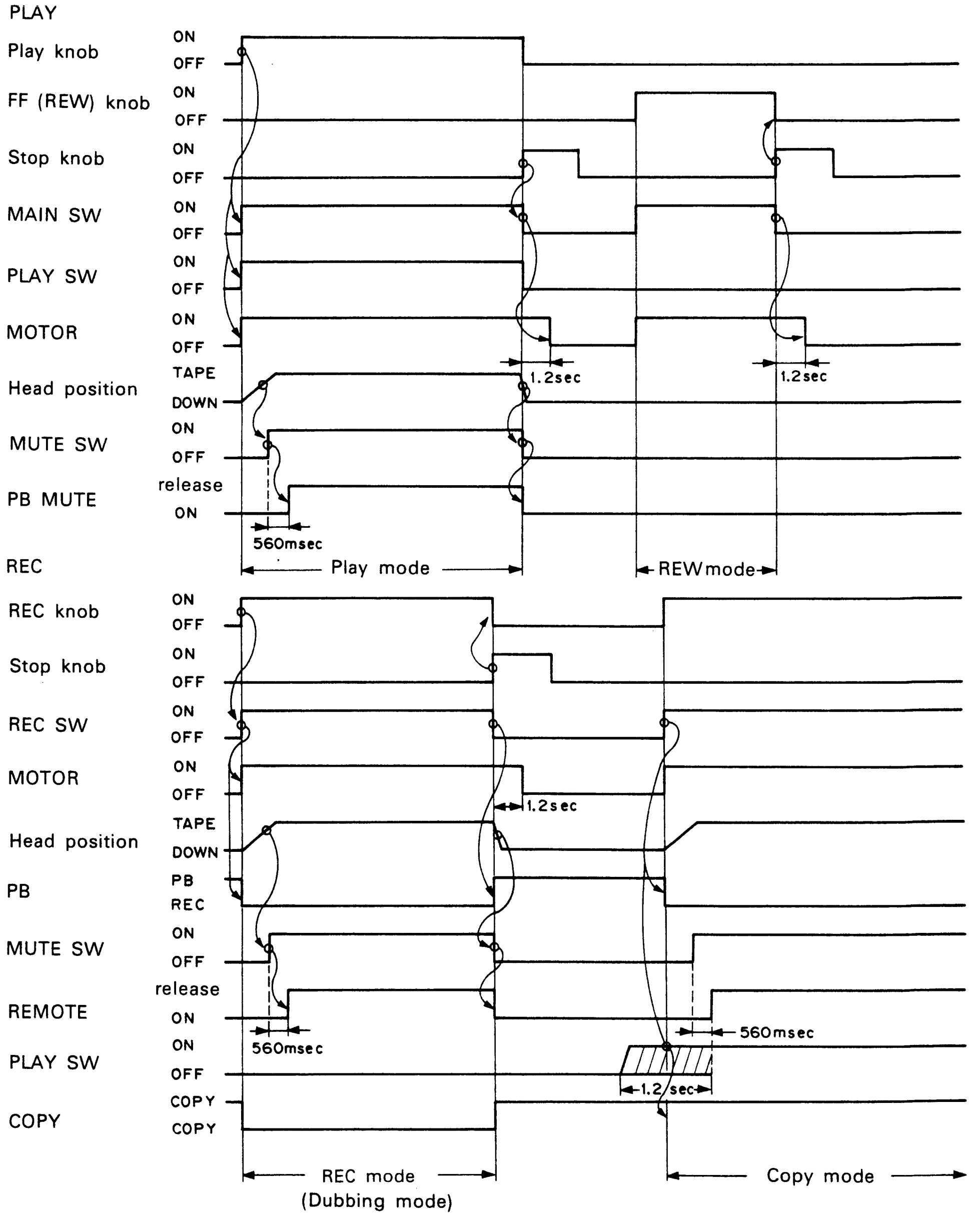

PLAY
Play knob
FF (REW) knob
Stop knob
MAIN SW
PLAY SW
MOTOR
Head position
MUTE SW
PB MUTE
ON
OFF
TAPE
DOWN
release
1.2sec
560msec
Play mode
REW mode
REC
REC knob
Stop knob
REC SW
MOTOR
Head position
PB
MUTE SW
REMOTE
PLAY SW
COPY
PB
REC
COPY
1.2sec
560msec
REC mode
(Dubbing mode)
Copy mode

Fig. 10-5-3 (1/2) PDE013 timing chart

Pin name and functions

Pin No.	Pin name	Input/output of siganl	Function
21	ARR	Input	B side erroneous recording prevention claw SW input of mechanism II: "1" when bloken.
22	ARF	Input	A side erroneous recording prevention claw SW input of mechanism II: "1" when broken.
23	SYNC	Input	Sync SW input in common: "0" when sync knob is pressedNote 1)
24	MAIN (1)	Input	Main SW input of mechanism 1: "0" when all the knobs are pressed except stop
25	DIRF	Input/output	DIR SW input and flickering output of mechanism II: "0" when B side is runningNote 2)
26	DIR	Input	DIR SW input and flickering output of mechanism I: "0" when B side is running
27	MUTE (1)	Input	Mute SW input of mechanism I: "0" when head is turned up
28	PLAY (1)	Input	Play SW input of mechanism I: "0" when play knob is pressed
1	MAIN (2)	Input	Main SW input of mechanism II: "0" when all the knobs are pressed except stop or pause
2	PLAY (2)	Input	Play SW input of mechanism II: "0" when play knob is pressed
3	MUTE (2)	Input	Mute SW input of mechanism II: "0" when head is turned up
4	REC	Input	REC SW input of mechanism II: "0" when REC knob is pressed
7	INT	Input	High speed SW input:Note 3)
8	RES	Input	Reset input
9	COPY	Output	Copy output ("0" during REC plus the fact that it is not in copy mode)
10	REC MUTE	Output	REC mute output ("0" when only REC mute is released)
11	MUTE	Output	PB mute output ("0" when only PB mute is released)
12	EQ	Output	EQ switching output ("1" during playback of mechanism I, "0" during playback of mechanism II)
15	PB	Output	Recording/playback switching of mechanism II ("1" during PB, "0" during REC)
16	HISPEED	Output	Double speed switching output ("1" during double speed, "0" during normal)
17	M1	Output	Motor control output of mechanism I ("0" during on)
18	M2	Output	Motor control output of mechanism II ("0" during on)
19	REC IND	Output	Recording IND output ("0" when lit)Note 4)

Fig. 10-5-3(2/2) PDE013 pin name and function

*** The output pins are all open collector outputs.**

Note 1: Sync SW is not used. In this case, PULL DOWN sync input.

Note 2: Only when DIRF input is 1 (During A side running), it may cause flickering output.
Flickering condition: When it is stopped during recording of REV side.
Flickering condition: When all the knobs are pressed except stop or pause, or when ejected.
Flickering ascertains that the running is in FWD, and does not have any connection with the ordinary operations.

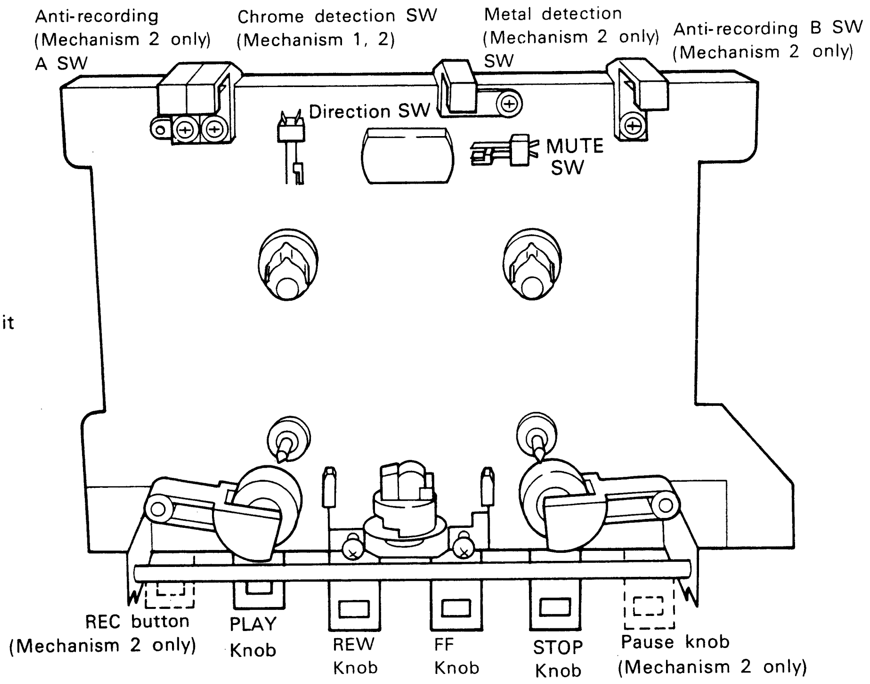
Note 3: Immediately after start of copying, it instantaneously operates as input. The trigger is REC mute output.
During high speed   REC mute   INT
During normal   High speed SW

Note 4: During REC→lights
During copying
During normal→Repeats flickering at about 1.2 sec interval
During high speed→Repeats flickering at about 0.6 sec interval

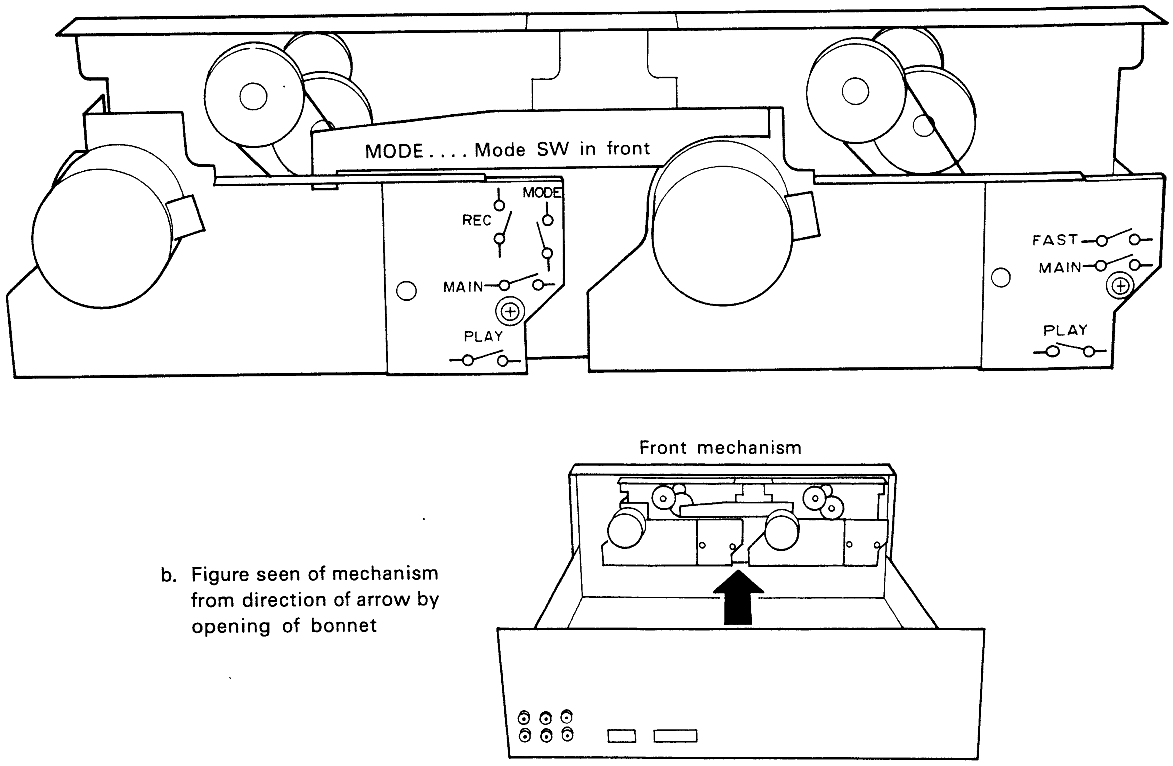
10-6. RELATIONSHIP BETWEEN MECHANISM OPERATION AND CONTROL MICROCOMPUTER

Before going into the main subject, Fig. 10-6-1 indicates the position and its role of the various SW on the mechanism.

In addition, as the names of "Mode" SW and "Direction" SW are used frequently in this manual, it is recommended that due notice be taken in their relation to the front panel.


Anti-recording (Mechanism 2 only) A SW
Chrome detection SW (Mechanism 1, 2)
Metal detection (Mechanism 2 only) SW
Anti-recording B SW (Mechanism 2 only)
Direction SW
MUTE SW
REC button (Mechanism 2 only)
PLAY Knob
REW Knob
FF Knob
STOP Knob
Pause knob (Mechanism 2 only)

a. Figure of mechanism unit seen from front side


MODE.... Mode SW in front
MODE
REC
MAIN
PLAY
FAST
MAIN
PLAY
Front mechanism

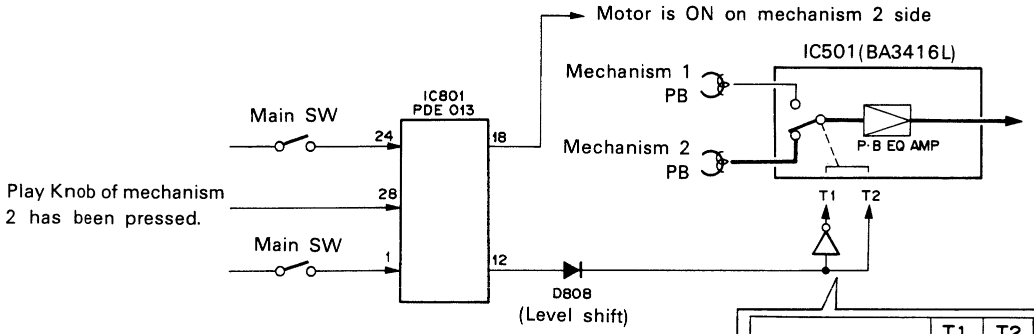
b. Figure seen of mechanism from direction of arrow by opening of bonnet

Fig. 10-6-1 Position and role of the various SW

10-6-1. When Mechanism 1 or Mechanism 2 Operates (Play) Independently

The microcomputer observes with the main switch, as indicated in Fig. 10-6-1(b), as to which knob of the mechanism has been pressed. Against the side of the mechanism of which this switch is on, the signal is output which turns the motor on.

Next, as explained in the block diagram 2, the DC-X55Z has only a single playback amp. Therefore it becomes necessary to make a loop in order to send to the playback amp. the playback signal obtained from the head on the selected mechanism side.
These functions are indicated in Fig. 10-6-2.


Motor is ON on mechanism 2 side
IC501(BA3416L)
Mechanism 1 PB
Mechanism 2 PB
P-B EQ AMP
T1
T2
IC801 PDE 013
Main SW
24
18
Play Knob of mechanism 2 has been pressed.
28
Main SW
1
12
D808 (Level shift)

	T1 ⑱	T2 ⑰
Mechanism 1 on	0	1
Mechanism 2 on	1	0

In the DC-X55Z, it is fixed hardwarewise to mechanism 2 on in the table to the left.

Fig. 10-6-2 Creation of a signal loop of the head when play knob of mechanism 2 has been pressed

10-6-2. When Mechanism 2 Side Performs REC Operation

Pin ⑫ output (EQ output) of IC801 (PDE013) is switched to playback of mechanism 1 at "H".

Make pin ⑮ (mechanism 2 recording/palyback switching output) into "L" and induce REC mode. By doing so,

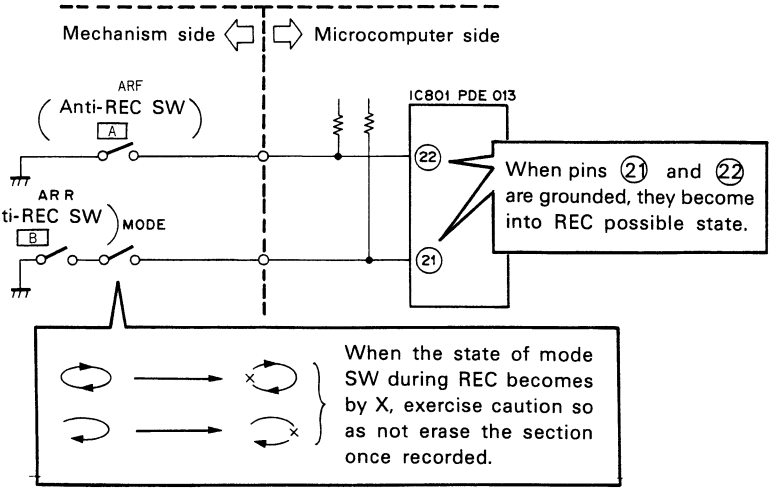
- IC503 is switched to REC mode.
- Make into operation possible state the SW of IC704. (Make to enable)
- Operates the bias oscillator
- Lights the REC IND

The above-mentioned operate and mechanism 2 goes into REC operation.

Moreover, as to the judgment whether it enables the REC operation in practice is judged by the anti-REC SW [See Fig. 10-6-1(a)] alone. (This model is structured mechanically so that the REC knob may be pressed even when the tape erroneous erasure prevention claw is broken. In case the claw is broken, it is so structured that the motor does not rotate and recording may not be performed.)

When reading the anti-REC SW state, it is performed during the start of REC. (The microcomputer does not observe thereafter). These relationships are shown in Fig. 10-6-3.

In Fig. 10-6-3, when the erroneous erasure prevention claw is broken, pins ㉑ and ㉒ of the microcomputer become "H" due to the anti-REC SW being off, and therefore does not become into the REC state.


Mechanism side
Microcomputer side
ARF
Anti-REC SW
A
ARR
Anti-REC SW
B
MODE
IC801 PDE 013
㉒
㉑

When pins ㉑ and ㉒ are grounded, they become into REC possible state.

When the state of mode SW during REC becomes by X, exercise caution so as not erase the section once recorded.

Fig. 10-6-3

10-6-3. Relay-play Operation

The DC-X55Z does not have this function.

In order to become into the relay-play operation, it is conditioned that both play switches are on of mechanisms 1 and 2.

It is also so structured that the first played mechanism is always played back on the $\boxed{A}$ side. In addition, in accordance with the state of the tape playback mode SW on the front panel, the operation will become as shown in $\boxed{2}$ 10-6-4 (According to the example set forth in $\boxed{2}$, both mechanisms of 1 and 2 are in the auto-reverse mode.)

In Fig. 10-6-4, the signal which serves as a trigger by detection of tape end and changing tape from $\boxed{B}$ to $\boxed{A}$ is due to the direction switch which is shown in $\boxed{2}$ 10-6-1. (Off when playing back $\boxed{A}$ side and on when entering $\boxed{B}$ side playback) In accordance with the information of this switch, pins ㉕ and ㉖ of the microcomputer change.

When mechanism 1 becomes from $\boxed{A}$ side to $\boxed{B}$ side and the $\boxed{B}$ side becomes end, the microcomputer observes that it is in mechanism 2. At this point, if mechanism 2 awaits at play, make pin ⑰ from "L" to "H" and stop mechanism 1. Furthermore, make pin ⑱ from "H" to "L" and play mechanism 2.

(㉕ and ㉖ are pin numbers of the microcomputer)

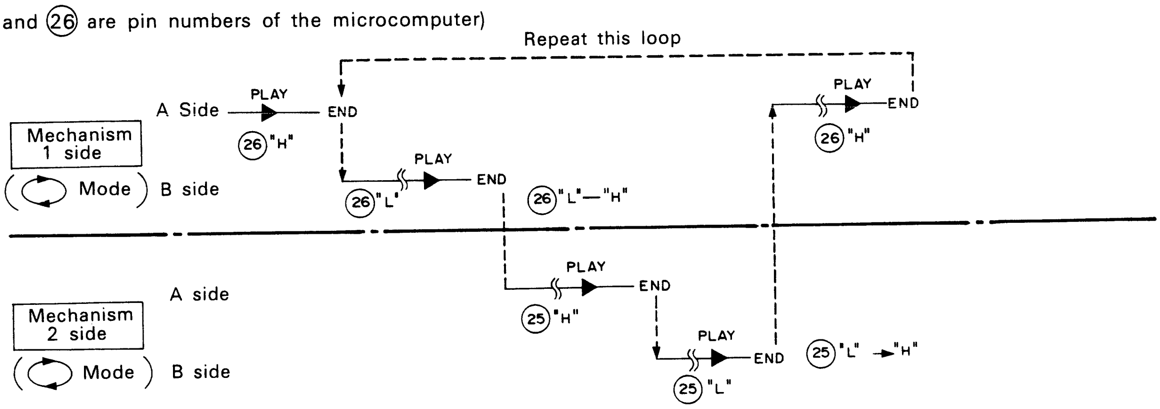


Fig. 10-6-4

10-6-4. Copy Operation

Not available for DC-X55Z.

By pressing the sync knob on the front, mechanism 1 becomes into play state and mechanism 2 into REC state. The microcomputer observes this state (When the play SW enters into about ±1.2 sec against the REC SW) and judges that it has become into copy mode.

When it becomes into this mode, the microcomputer makes a series of operations as follows:

1. Observes the state of the high speed SW.
   A pulse of approximately 20 μsec is output from pin ⑩. If this can be read at pins ⑦ it becomes into high speed recording mode.
2. Set to normal recording or high speed recording.
   High speed recording when pin ⑯ is "H".
   Normal speed recording when pin ⑯ is "L".
3. Flickers REC IND.
   0.6 sec cycle during high speed recording
   1.2 sec cycle during normal speed recording
4. Makes mechanism 1 into play, and mechanism 2 into REC. Makes pin ⑨ to "H".

10-6-5. Others

Warning against misrecording

In the DC-X55Z, when the recording is cut off on the midst of the $\boxed{B}$ side, and then it is desired to continue the recording thereafter on the $\boxed{B}$ side the following operation is performed.

1. Turn on PAUSE.
2. Provide for recording state.
3. Provide for $\boxed{B}$ side with direction switch.
4. Release PAUSE.

Caution should be exercised because when the recording state is engaged outright, recording will be performed on the $\boxed{A}$ side. In order to prompt this caution, this unit flickers the "▷" side of "◁▷" (Pin 25 output of microcomputer)

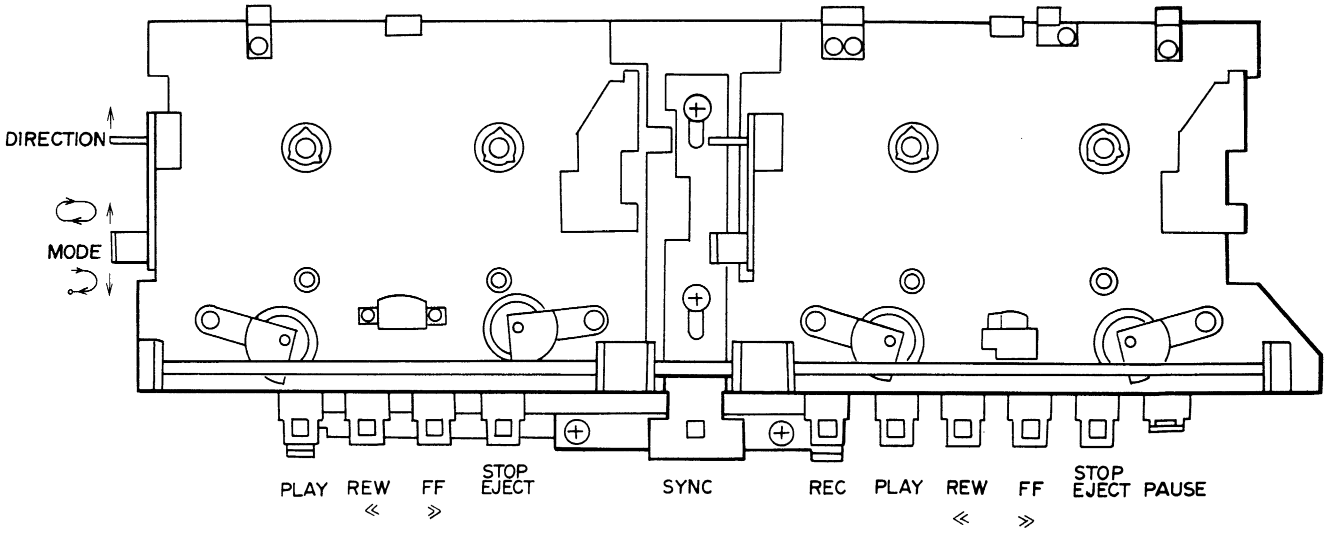
11. MECHANISM OUTLINE

11-1. MAJOR SPECIFICATIONS OF MECHANISM

Tape speed	4.76 cm/sec (9.5 cm/sec)
Wow and flutter	0.2% JIS WRMS at 4.76 cm/sec
FF and REW time	105 ±15 sec
Take up torque	40 +25—5 g·cm
FF and REW torque	Over 80 g·cm less than 200 g·cm
Back tension torque	3 +2—1 g·cm
Pinch roller pressing force	220 to 330g
Reverse time at the tape end	Less than 4 sec (PLAY)

11-2. OPERATION OUTLINE OF MECHANICAL SECTION

11-2-1. Operation Lever Arrangement



11-2-2. Play

It is put into play mode by the mechanical assist.

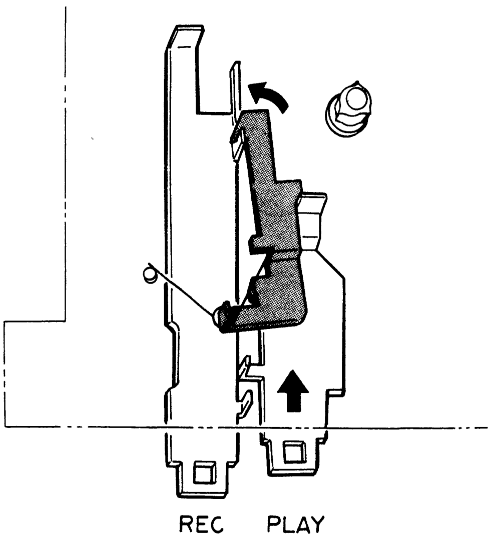
11-2-3. REC & Play

Play mechanism

1. In the play mode it becomes into <<(REW) or >>(FF), and REV or CUE operation. If it has been in the music selection mode (separate circuit) <<(REW) or >>(FF) is locked and it can be released by the solenoid switch being turned off.

REC mechanism

1. When the operation lever of the REC is pressed, that of play is also linked to operate.
2. When in the play mode, if the REC operation lever is pressed, it does not operate.
3. When in >>(REW) or <<(FF) mode, if the REC operation lever is pressed, it does not operate.
4. When in the play mode, if <<(REW) or >>(FF) operation lever is pressed, the play mode is released and it becomes into <<(REW) or >>(FF) single mode.

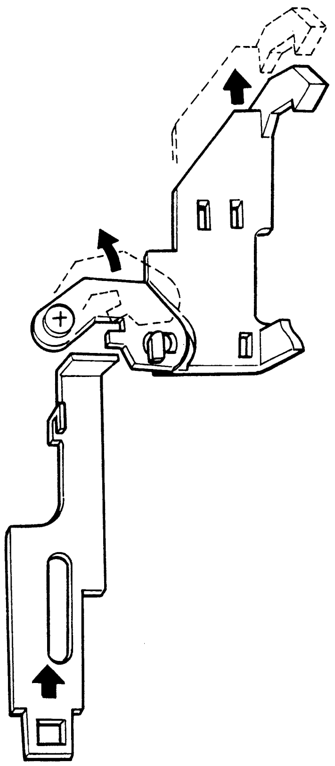


11-2-4. << & >> (REW & FF)

1. It becomes into the REW & FF against the FWD mode and becomes the FF & REW mode against the REV mode.
2. Direct lever pressing <<REW to >>(FF) or from >>(REW) to <<(FF) is not permissible. Be sure to press the lever once via the stop operation.

11-2-5. Stop/Eject

1. Releases the lock of other operation plates. (Except for PAUSE)
2. When the other operation plates are not locked, press the latch lever.
3. When the head board is in the suficiently advanced state, the STOP plate cannot be inserted even when the other operation plates are unlocked. (The above-mentioned situation is conceivable when the power switch becomes off during the play mode and thereafter the stop operation is performed and the carrying out of the eject operation is intended.)
4. The state of the PAUSE plate has no relations to the operation of the STOP/EJECT plate.



11-2-6. Pause

During the REC or play mode, it can be turned into the pause mode by pulling back the head board a little.

11-2-7. Direction

1. When the operation is performed dring the REC or play modes, the tape running direction changes to FWD → REV or REV → FWD.
2. This operation is prohibited when it is not in the REC or play mode.
   See the description of "DIRECTION ".

11-2-8. Mode

1. In the mode of ⟳, the tape running direction is automatically changed at the tape end of the FWD or REV and this operation is repeated.
2. In the mode of ⮌ , the tape running direction becomes REV at the tape end of FWD and automatically released at the tape end of REV.
3. During << or >>, the tape running directions are automatically released at the respective tape ends.
   See the description of "MODE SELECTION".

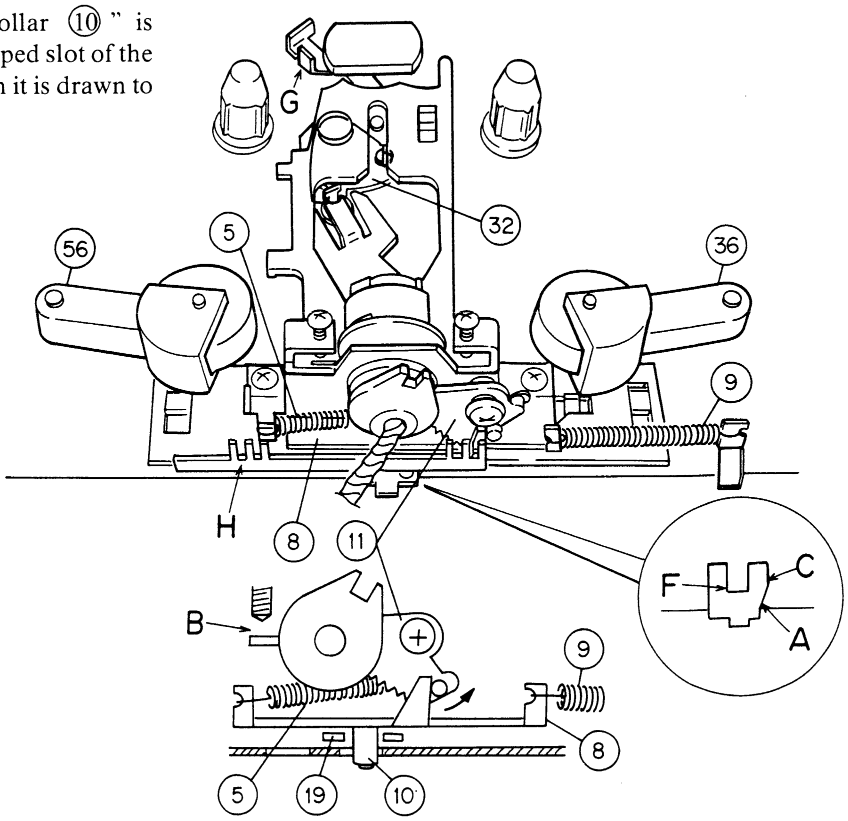
11-2-9. Head Rotation

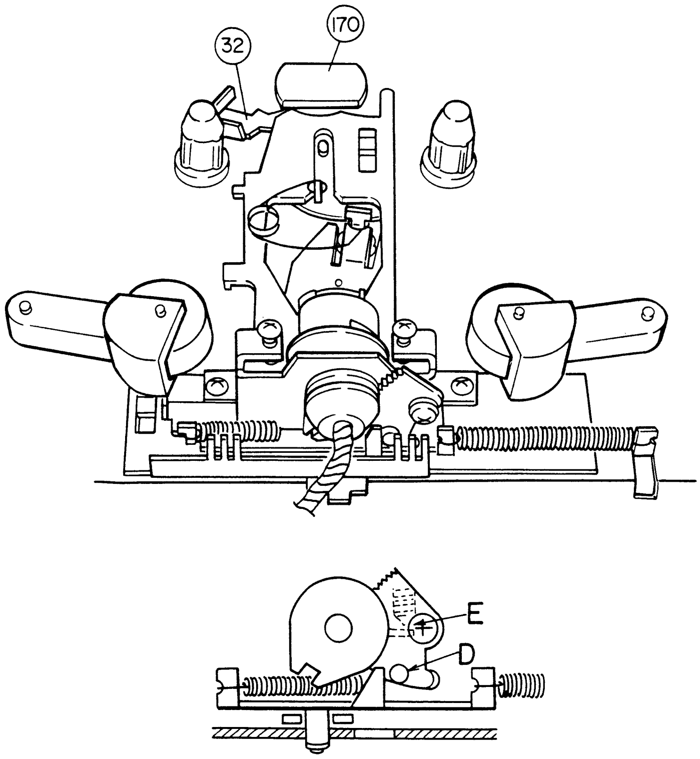
The deviation of the "slide plate ⑧" to the right or left corresponds to the head rotation and the selection of "pinch arm assembly R (56) " and "pinch arm assembly L ㊱ ".

2. During the stop mode (the state in which none of the operations are being carried out), the head board is positioned at the furthermost back.
   The "slide plate ⑧" is drawn to the right direction by "spring ⑨". This is specified as the FWD standby state.
   The "collar ⑩ " of the slide plate contacts with the A section of the U shaped slot of the board. Therefore, the head does not rotate completely and, accordingly, it provides a clearance in the azimuth adjusting section B. This is provided to prevent the shock caused when switching of the REV → FWD mode.
3. When the head board is advanced the "collar ⑩ " moves to the C section of the U shaped slot. Since this section is larger than the A section, the "slide plate ⑧" is further pulled to the right direction and the head rotation is regulated by the azimuth adjusting section B via the "head gear B ⑪ ".
   At this point, there is a clearance provided between the "collar ⑩ " and the board C section.

4. When the "reverse A ㉜ " is rotated, the "collar ⑩ " is shifted to the left via the "pinch pressure lever caulking assembly ⑲ ". The shifting amount is in degree to the making of a clearance between the "slide plate ⑧" and the projection D of the "head gear B ⑪ ". As a result, the head is rotated until it contacts with the azimuth adjusting section E by the pressure of the "head gear spring ⑤".
   As the head board advances, the "collar ⑩ " is supported by the F section of the U shaped slot of the board, and maintains the state in which it is drawn to the left, and becomes in REV mode.

5. In the stop mode, move the G section of the "reverse A ㉜ " in the direction of arrow by hand as shown in Fig., and the operation condition can be found. Moreover, the head board can be advanced to observe the condition with the H section.
   Finally, be sure to confirm that the head board has completely been recoded.





11-2-10. FWD Priority

1. Once the stop operation is carried out, the next REC or play operation is started from the FWD mode. When pause is required in the process of REV mode, perform pause operation.
2. The aforementioned head rotation operation is carried out by every half rotation of the "reverse cam (170) ".
   It becomes into the FWD mode after a short pin has passed through and the REV mode after a long pin has passed through.
3. If the stop operation is carried out from the REV mode, the head board is receded and it becomes into the FWD standby mode as mentioned previously.
4. The "reverse A ㉜ " is also returned at this point; however, the long pin of the "reverse cam (170) " is being pushed a little. Consequently, the "reverse cam (170) " turns a half rotation immediately or immediately after the motor is activated again to synchronize with the FWD mode related to the head board.

11-2-11. Play Assist

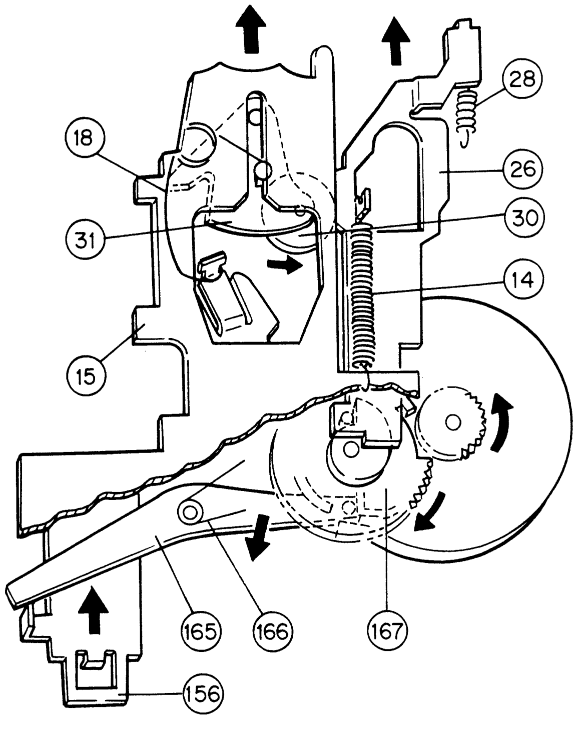
1. When the "play plate (156) " is inserted, it sets the "assist arm (165) " free and rotates the "assist gear (167) " a little by the force of the "trigger returning spring (166) ".
   The assist gear becomes engaged with the gear of the flywheel and it turns nearly one rotation and when it arrives at the notch of the gear, it is stopped by the top section of the assist arm.
   A cam is formed on the other side of the assist gear and the "auxiliary plate ㉖ " is pushed up alongside the cam face and pulls up the "head board ⑮ " through the "spring ⑭ ".
2. The "idler gear ㉚ " is attached to the "idler gear plate ㉛ " and the selection of the FWD and REV modes are capable by the "inverse spring ⑱ ". The transmission of the take-up torque to the reel table becomes possible by advaning the head board.
3. When the "play plate (156) " is returned by the stop operation, etc., the "assist arm (165) " is also returned and the "assist gear (167) " becomes free and it is receded together with the "head board ⑮ " and the "auxiliary plate ㉖ " by the head returning spring ㉘ "

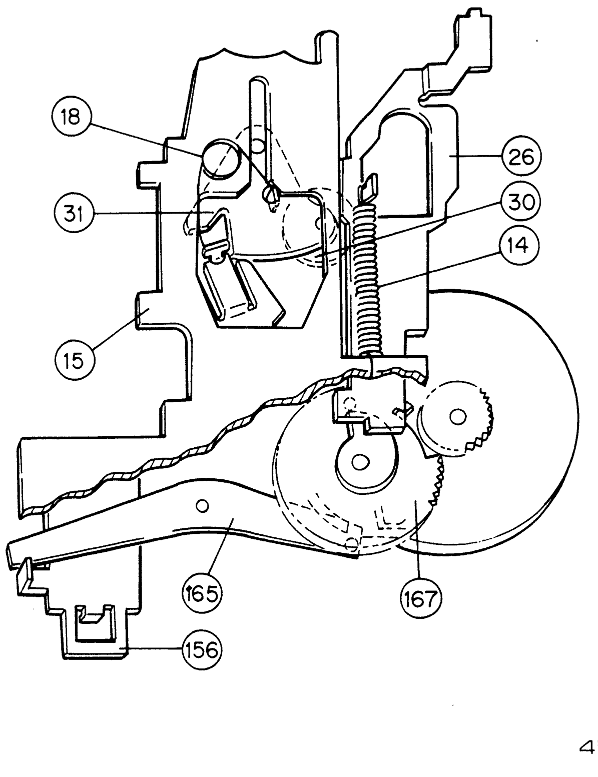
11-2-12. Reverse Auxiliary Plate

During the REV mode, the "idler ㉚ " receives the pushing back force in relation to the rotation direction. When the head board advances, the edge of the "idler plate ㉛ " is held to prevent it from being pushed back.

11-2-13. Direction

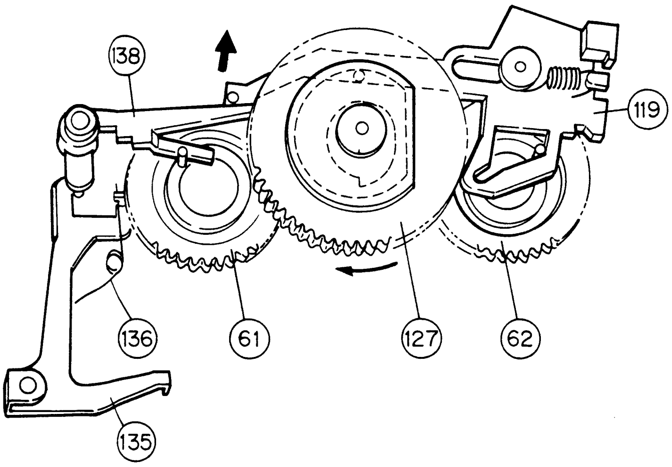
1. Switching of the FWD and REV is carried out by every half rotation of the "reverse cam (170) ". (Refer to item 9 and 10) The "reverse gear (129) " is connected to this across the board.
   There are two V shaped concave section which face each other at 180° on the cam face closer to the inner circumference of the "reverse gear (129) ". In addition, two V shaped convex sections face each other at 180° on the cam face closer to the outer circumference of the said gear. The outer circumference has 2 notch sections.
2. The tip pin section of the "DR lever (122) " is engaged with the concaved section of the reverse gear cam face by "spring (121) " to fix the gear position. At this position, due to gear notching section, it is not engaged with the "tension pulley (127) " which is always rotating at a low speed.
3. When the operating edge of the "DR lever (122) " is drawn toward you, the pin section comes out from the concaved section of the cam face and strikes against the sloped face of the concave and rotates this reverse gear a little.
4. Accordingly, the gear enchagement is started and the reverse gear rotates only by half rotation.
5. The shift operation of the "DR lever (122) " is so designed as to prohibit the play plate from being inserted relative to the A section and the "play plate (156) ".

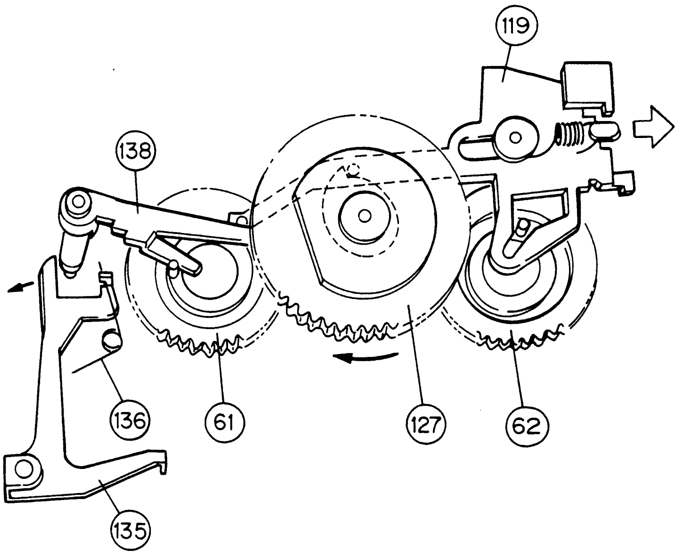




11-2-14. Automatic

1. On the lower part of the "reel tables (61) and (62) ", there is a pin which is connected to them by a small torque to rotate together.
2. The pin contacts against the short branch of the "detection prevention lever (138) ", and while the FWD side reel table is rotating in the FWD direction, it receives the force in the direction of arrow.
3. A pin is inserted into the square shaped slot of the "detection lever (119) ", and it is moved in the direction of arrow during the rotation to REV direction by this pin, and during the rotation to the FWD direction by the detection prevention lever.
4. To the "tension pulley (127) ", which is always rotating at a low speed, a stepped cam is provided close to the center and a eccentric circumferential shape cam is provided close to the outside. The wall section A in the top section of the "detection lever (119) " is inserted to the concave section between those two cams.
5. During rotation of the reel table the A section, within the cam groove, always totteringly tends to go outward alongside the 1 circumferential cam surface.
6. When the reel table is suspended, as the force to go outward becomes dormant, the A section is drawn inward by the outer circumference cam surface. Thereafter it stays as is and collides with the staircase of the inner cam. By moving it in the direction of →, it performs automatic operation.
7. The eccentric force is applied to the "detection prevention lever (138) " so that the automatic operation does not activate while the "detection prevention plate (135) " and "spring (136) " are in stop or pause modes.



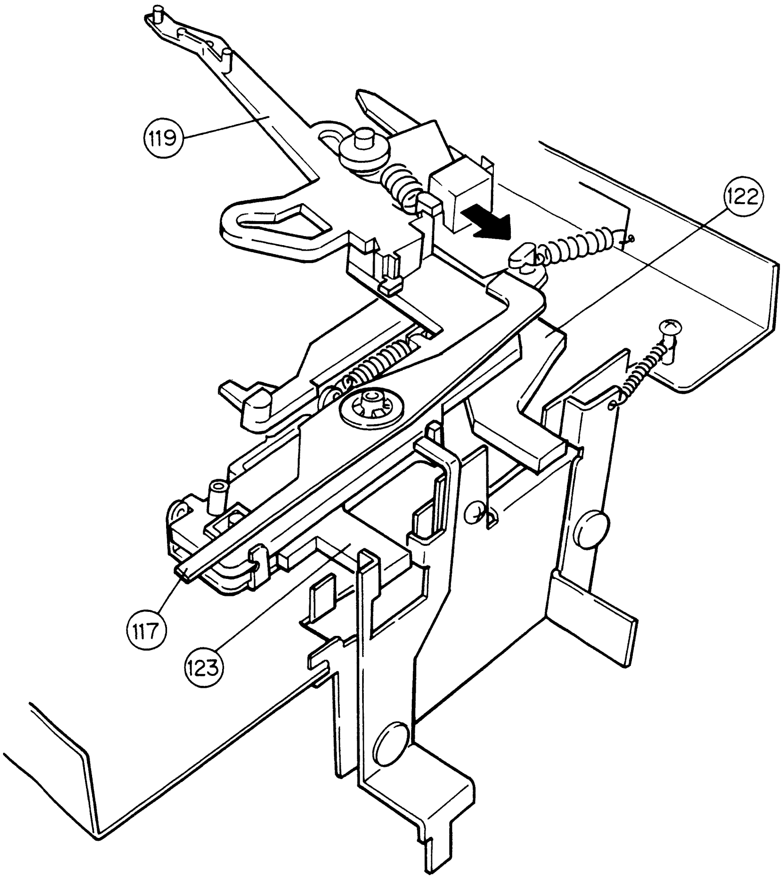


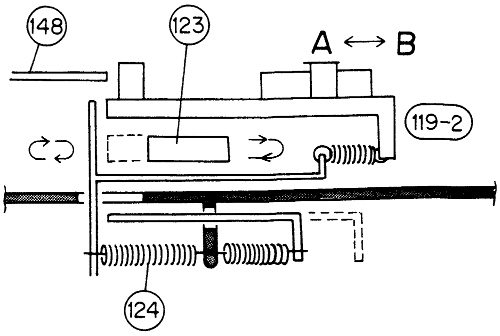
11-2-15. Mode Selection

1. The movement of the "detection lever (119) " in the arrow direction is transmitted selectively to the A section of the "DR lever (122) " or the B section of the "release lever (117) ". When it is transmitted ot the DR leverl, it becomes the direction selection and to release lever, it becomes into automation release.
2. The "detection lever (119) " is installed at the section of (119-2) . When (119-2) section slides to the A direction, it becomes the DIRECITON (continuous) and to the B direction, it becomes the automatic release (one round trip and then stops).
3. The "stopper plate B (148) " acts when in the << or >> operation and makes it into the end automatic release preferentially.
   When setting the "mode lever (123) " to ↻, the next one becomes the DIRECTION selection (continuous mode) with first priority.
   When setting the "mode lever (123) " to ⤸, it becomes selection during the FWD mode and automatic release during the REV mode.
4. The "spring (124) " is a weak spring. It is required that the sliding is carried otu lightly.

11-2-16. Others

It the play operation is carried out when the power switch is turned off, there may be cases in which the assist gear is still engaged. When the power switch is turned on, it becomes the following mode after once passing through the play mode.





12. ADJUSTMENTS

Tape speed adjustment

1. Connect the frequency countr to the TP1 terminal (Dolby TP: R-ch) on the complex assembly.
2. Turn the tape switch on.
3. Mount the test tape STD-301 onto deck I.
4. Short-circuit between terminals TP4 and TP5 on the tape assembly and put the deck I into play mode. (STD-301 is play backed in double speed.)
5. Adjust with VR803 so that the playback signal frequency of deck I becomes 6020Hz ±10Hz.
6. Release the short-circuit between terminals TP4 and TP5.
7. Put the deck I into play mode and adjust with VR804 so that the playback signal frequency becomes 3010Hz ±5Hz.
   (Note 1: Be sure not to turn VR803 while performing the normal speed adjustment.)
8. At this point, be sure to confirm that the wow and flutter are within 0.3% both in the double and normal speeds.
9. Mount the test tape STD-301 onto deck II.
10. Short-circuit between terminals TP4 and TP5 on the tape assembly and put the deck II into play mode. (STD-301 is play backed in double speed.)
11. Adjust with VR802 so that the playback signal frequency of deck II becomes ±20Hz against that of deck I.
12. Release the short-circuit between terminals TP4 and TP5.
13. Put the deck II into play mode and adjust with VR801 so that the playback signal frequency of deck II becomes ±10Hz against that of deck I.
    (Note: Be sure not to turn VR802 while performing the normal speed adjustment.)
14. At this point, be sure to confirm that the wow and flutter are within 0.3% both in the double and normal speeds.

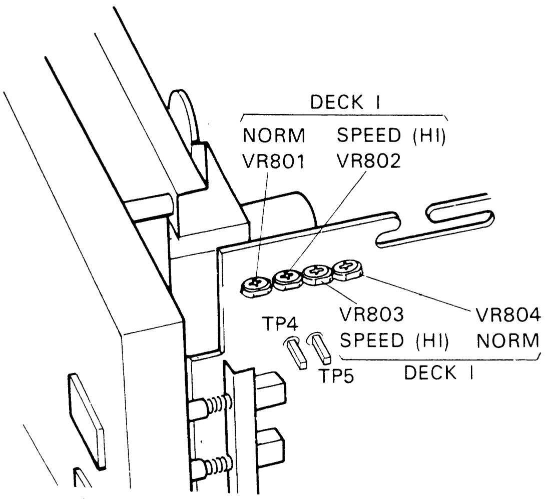


Fig. 12-1 Adjustment Point

Electrical system adjustment

Prior to the electrical system adjustment, be sure to confirm the following itesm.

1. The mechanical adjustment should be completed.
2. Perform cleaning of the head and the demagnetization of head with the head eraser.
3. The level during measurement is determined at 0dBv = 1V.
4. The specified tape should be used for adjustment. Since the test tape has A side and B side, use the A side with label.
   STD-331B: For playback system adjustment
   STD-608A: Normal blank tape
   STD-620: CrO_2 blank tape
   STD-610: Metal blank tape
5. Prepare the following measuring instruments. AC millivoltmeter, low frequency oscillatore, attenuator, and oscilloscope.
6. For the adjustment, perform both L and R channels unless otherwise specified.
7. Turn the Dolby NR switch to off unless otherwise specified.
8. Prior to the adjustment, be sure to perform aging of the set for several minutes. Especially prior to entering the adjustment of the recording and playback frequency characteristics, aging should be performed in REC/PLAY mode for 3 to 5 minutes.
9. The adjustment should be performed in accordance with the adjustment order. If the order is not kept, it may cause the failure of the complete adjustment which induces the inferior function of the unit.

Deck I

1. Head azimuth adjustment
2. Playback level adjustment

Deck II

1. Head azimuth adjustment
2. Playback level adjustment
3. Adjustment of recording and playback frequency characteristics
4. Adjustment of recording level

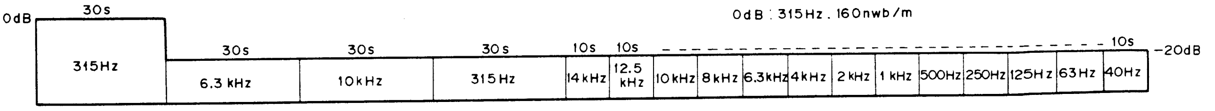


Fig. 12-2 Test tape STD-331B

Adjustment of Deck I

*This deck is provided with an auto-tape-selector mechanism.

1. Head azimuth adjustment

* (Note) Do not select FWD and REV with the screwdriver being kept inserted.

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	PLAY	Play back 10kHz/−20dB on test tape STD-331B	Head azimuth adjusting screw (Fig. 12-3)	TP1 (R) TP2 (L)	Maximum playback signal level	After completion, lock the screw

2. Playback level adjustment

* Perform this adjustment precisely since this adjustment is Dolby level setting during playback.

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	PLAY	Play back 315Hz/0dB on test tape STD-331B	VR504 (R) VR503 (L)	TP1 (R) TP2 (L)	−13.5dBv±2dB	

Adjustment of Deck II

*This deck is provided with an auto-tape-selector mechanism.

1. Head azimuth adjustment

* (Note) Do not select FWD and REV with the screwdriver being kept inserted.

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	PLAY	Play back 315Hz/0dB on test tape STD-331B	Head azimuth adjusting screw (Fig. 12-3)	TP1 (R) TP2 (L)	Maximum playback signal level	After completion, lock the screw.

2. Playback level adjustment

* Perform this adjustment precisely since this adjustment is Dolby level setting during playback.

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	PLAY	Play back 315Hz/0dB on test tape STD-331B	VR502 (R) VR501 (L)	TP1 (R) TP2 (L)	−13.5 dBv ±0.5 dB	

3. Adjustment of recording and playback frequency characteristics

* This adjustment is performed in order to adjust the recording bias. Therefore, caution should be exercised not to worsen the distortion ratio due to under bias.

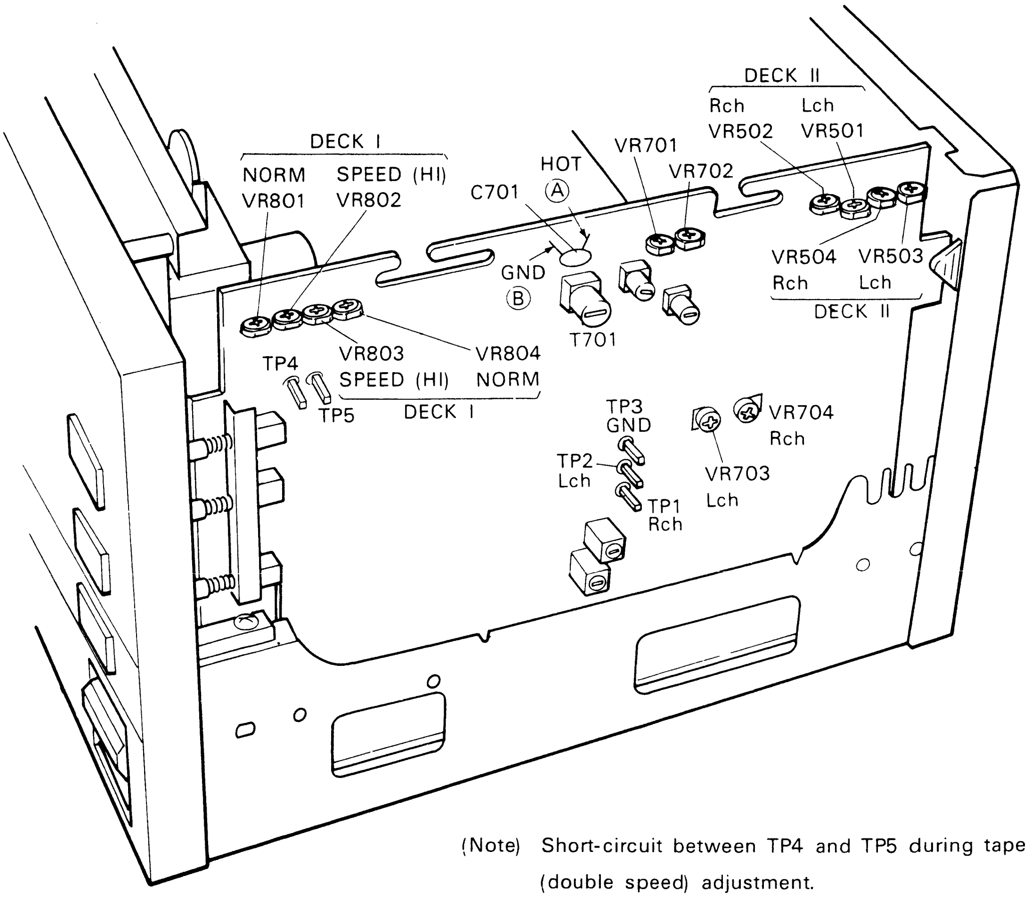
Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	REC	STD-608A and put into REC mode.	Bias oscillator frequency T701	BetweenⒶandⒷ in Fig. 12-2	Confirm that the oscillation frequency 105 kHz ±1 kHz.	When it is not within the standard, put it into the standard by adjusting T701.
2	NORM	REC	Apply the signal of 315Hz to the CD terminal and turn the CD switch on.	Input signal level	TP1 (R) TP2 (L)	−33.5 dBv ±0.5 dB	
3	NORM	PEC/PLAY	Record and play back 315Hz and 10kHz on test tape STD-608	VR702 (R) VR701 (L)	TP1 (R) TP2 (L)	Repeat recording and playback, and compensate so that the playback level of 10kHz against 315Hz becomes 0±0.5dB.	

* Select the test tape, tape selector, and Dolby NR switch and satisfy the frequency characteristic zone as shown in Figs. 12-5 and 12-8.

4. Recording level adjustment

* Set the graphic equalizer and balance volume to the center and the mike mixing volume to the source side.

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	REC	Apply the signal of 315Hz to the CD terminal and turn the CD switch on.	Input signal level	TP1 (R) TP2 (L)	−33.5 dBv (±0.5 dB)	
2	NORM	REC/PLAY	Record and play back 315Hz to the test tape STD-608A.	VR704 (R) VR703 (L)	TP1 (R) TP2 (L)	Repeat recording and playback, and compensate so that the playback level of 315Hz becomes −13.5 dBv (±0.5 dB).	
3	CrO2	REC/PLAY	Record and play back 315Hz to the test tape STD-620.		TP1 (R) TP2 (L)	Confirm that the playback level of 315Hz becomes −13.5 dBv (±1.0 dB).	
4	METAL	REC/PLAY	Record and play back 315Hz to the test tape STD-610.		TP1 (R) TP2 (L)	Confirm that the playback level of 315 Hz becomes −13.5 dBv (±1.0 dB).	


DECK II
Rch
Lch
VR502
VR501
DECK I
NORM
SPEED (HI)
VR801
VR802
C701
HOT
Ⓐ
VR701
VR702
GND
Ⓑ
T701
VR504
VR503
Rch
Lch
DECK II
TP4
VR803
VR804
SPEED (HI)
NORM
TP5
DECK I
TP3
GND
VR704
Rch
TP2
Lch
VR703
Lch
TP1
Rch

(Note) Short-circuit between TP4 and TP5 during tape speed (double speed) adjustment.

Fig. 12-3 Arrangement diagram of adjusting parts

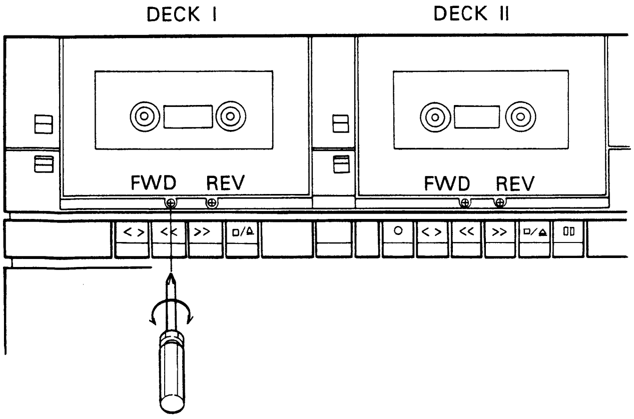

DECK I
DECK II
FWD
REV
FWD
REV

Fig. 12-4 Head azimuth adjustment

Test tape	STD-331B
DOLBY NR switch position	OFF

- The right channel is corrected by −0.5 at 125 Hz and −1 dB at 63 Hz to compensate for edge effect.

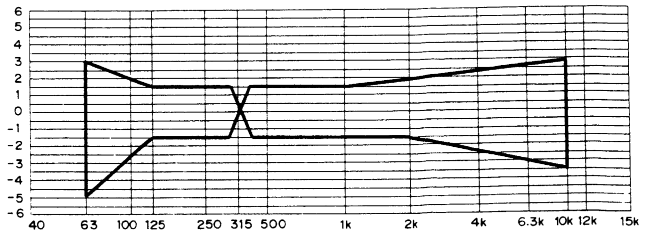


Fig. 12-5 Playback frequency response tolerance zone

Test tape	STD-608A	Test tape	STD-608A
DOLBY NR switch	OFF	DOLBY NR switch	ON

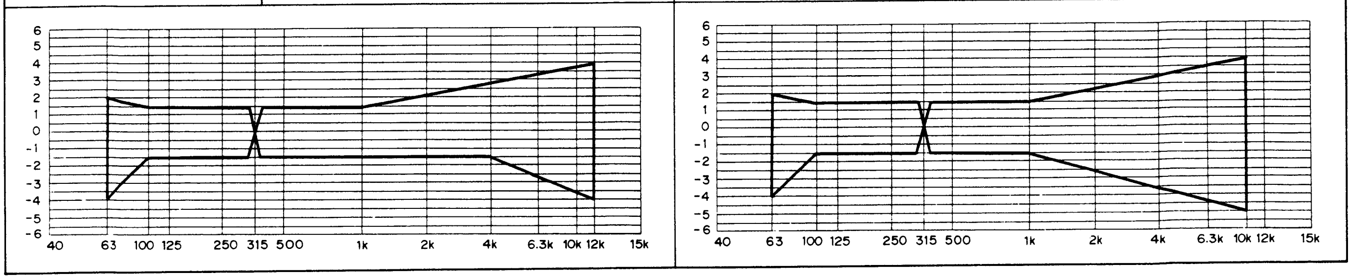


Fig. 12-6 Recording & playback frequency response tolerance zone (NORM)

Test tape	STD-620	Test tape	STD-620
DOLBY NR switch	OFF	DOLBY NR switch	ON

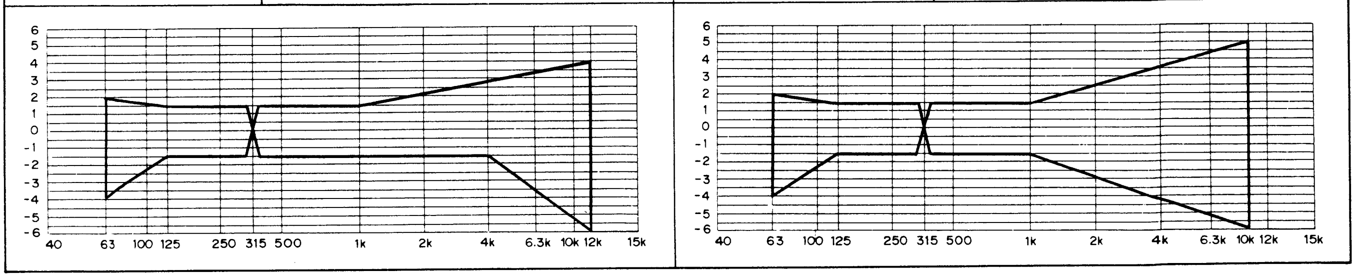


Fig. 12-7 Recording & playback frequency response tolerance zone (CrO2)

Test tape	STD-610	Test tape	STD-610
DOLBY NR switch	OFF	DOLBY NR switch	ON

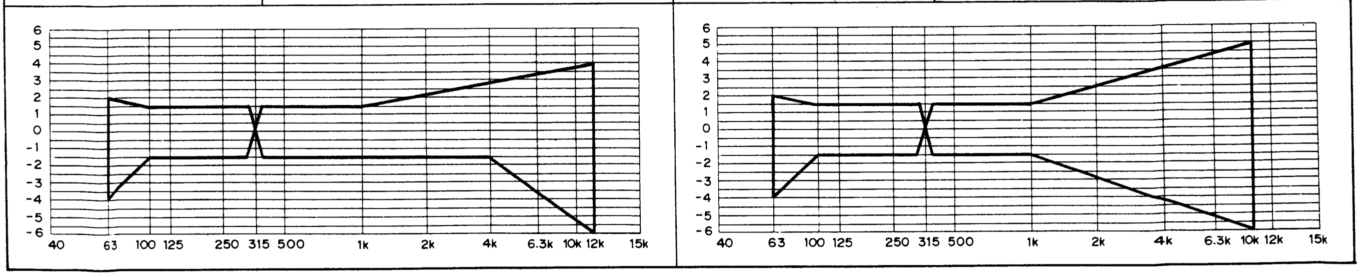
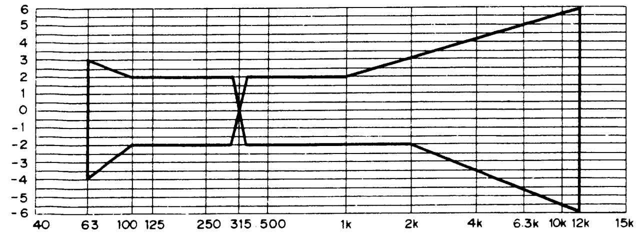
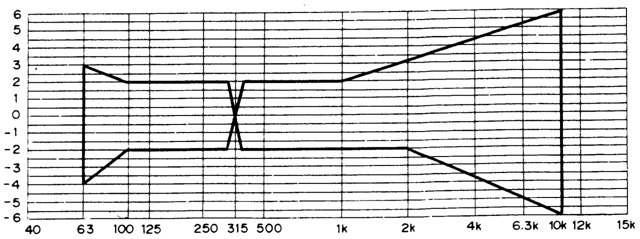


Fig. 12-8 Recording & playback frequency response tolerance zone (METAL)

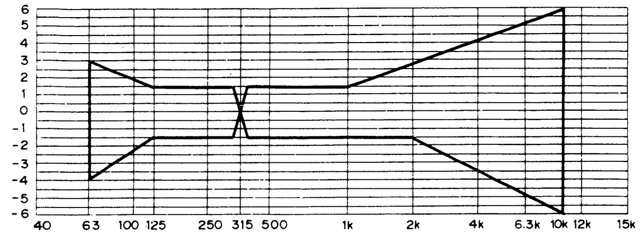
Test tape	STD-608A
DOLBY NR switch	OFF



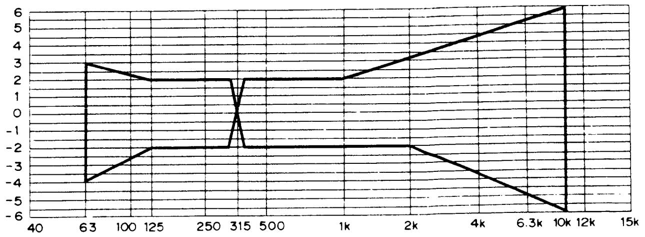
Test tape	STD-608A (HIGH SPEED COPY)
DOLBY NR switch	OFF



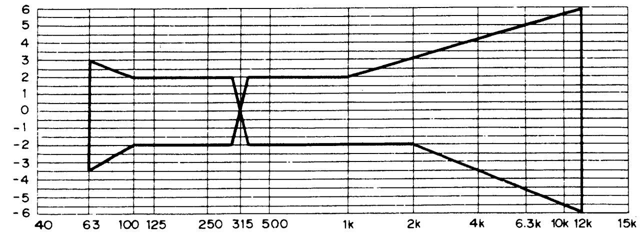
Test tape	STD-620
DOLBY NR switch	OFF



Test tape	STD-620 (HIGH SPEED COPY)
DOLBY NR switch	OFF



Test tape	STD-610
DOLBY NR switch	OFF



Test tape	STD-610 (HIGH SPEED COPY)
DOLBY NR switch	OFF

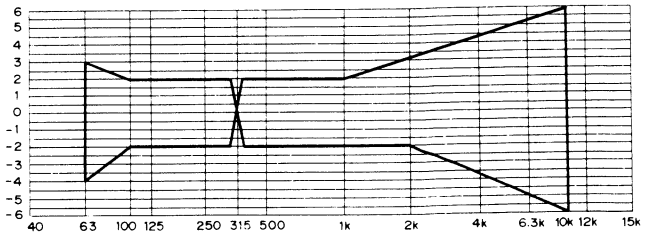


Fig. 12-9 Copy mode recording & playback frequency response (for reference purposes)

12. RÉGLAGE

Réglage de la vitesse de la bande

1. Raccorder le compteur de fréquence à la borne TP1 (Dolby TP: R-ch) de la platine magnétophone.
2. Brancher l'interrupteur de la platine.
3. Installer la bande d'essai STD-301 sur la platine de lecture I.
4. Mettre les bornes TP4 et TP5 de la platine magnégophone en court-circuit et régler la platine de lecture I sur le mode lecture. (STD-301 est lue à double vitese.)
5. A l'aide de VR803, régler la fréquence du signal de lecture sur 6020 Hz ±10 Hz.
6. Supprimer le court-circuit entre les bornes TP4 et TP5.
7. Régler la platine de lecture I sur le mode lecture et à l'aide de VR804, régler la fréquence du signal de lecture sur 3010 Hz ±5 Hz.
   (Note 1: Ne pas toucher à VR803 pendant le réglage de la vitesse normale.)
8. Vérifier alors que pleurage et scintillement nominaux sont obtenus à 0,3% près à vitesse normale comme à vitesse double.
9. Installer la bande d'essai STD-301 sur la platine de lecture II.
10. Mettre les bornes TP4 et TP5 de la platine magnégophone en court-circuit et régler la platine de lecture II sur le mode lecture. (STD-301 est lue à double vitese.)
11. A l'aide de VR802, régler la fréquence du signal de lecture de la platine de lecture II sur ±20 Hz par rapport à la valeur de la fréquence de la platine I.
12. Supprimer le court-circuit entre les bornes TP4 et TP5.
13. Régler la platine de lecture II sur le mode lecture et à l'aide de VR801 régler la fréquence du signal de lecture de cette platine sur ±10 Hz par rapport à la fréquence de la platine I.
14. Vérifier alors que pleurage et scintillement nominaux sont obtenus à 0,3% près à vitesse normale comme à vitesse double.

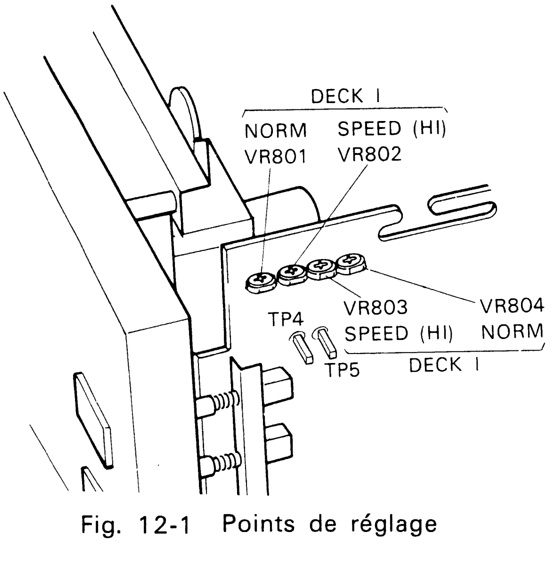


Fig. 12-1 Points de réglage

Réglage du système électrique

Avant d'effectuer le réglage du système électrique, vérifier tous les points suivants.

1. Le réglage mécanique est terminé.
2. Nettoyer et démagnétiser la tête de lecture à l'aide de l'effaceur.
3. Le niveau pendant la mesure est de dBv = 1V.
4. Utiliser une bande du type spécifié pour le réglage. La bande a un côté A et un côté B. Utiliser le côté A repéré par une étiquette.
   STD-331B: pour réglage du système de lecture
   STD-608A: bande vierge normale
   STD-620: bande vierge au CrO_2
   STD-610: ande vierge métalique
5. Préparer les instruments de mesure suivants: Millivoltmètre ca, oscillateur à basse fréquence, affaiblisseur et oscilloscope.
6. Effectuer le réglage sur les canaux D et G, sauf spécification contraire.
7. Sauf spécification contraire, couper l'interrupteur de réduction de bruit Dolby.
8. Avant d'effectuer le réglage, laisser chauffer l'appareil pendant plusieurs minutes. En particulier avant le réglage des caractéristiques de fréquence d'enregistrement et de lecture, laisser chauffer pendant 3 à 5 minutes en mode REC/PLAY.
9. Le réglage doit être effectué dans l'ordre indiqué. Si cet ordre n'est pas respecté, la totalité du réglage, dont le fourniture de base de l'appareil dépend, risque d'être perturbé.

Platine de lecture I

1. Réglage de l'azimutage de la tête.
2. Réglage du niveau de reproduction.

Platine de lecture II

1. Réglage de l'azimutage de la tête.
2. Réglage du niveau de reproduction.
3. Réglage des caractéristiques de fréquence d'enregistrement et de lecture
4. Réglage du niveau d'enregistrement

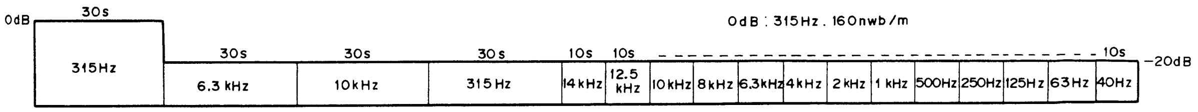


Fig. 12-2 Bande d'essai STD-331B

Réglage de la platine de lecture I

* Cette platine est pourvue d'un mécanisme d'auto-sélection-de bande.

1. Réglage d'azimut

* (Note) Enlever le tournevis avant de régler sur marche avant ou retour en arrière.

Méthode	Sélecteur de bande (AUTO)	Mode	Signal d'entrée/bande d'essai	Point de réglage	Point de mesure	Valeur de réglage	Remarque
1	Normal	Marche	Lecture sur 10kHz/–20dB avec bande d'essai STD-331B	Vis de réglage d'azimut (Fig. 12-3)	TP1 (R) TP2 (L)	Niveau maximum du signal de lecture	Bloquer ensuite la vis

2. Réglage du niveau de lecture

* Effectuer ce réglage avec précision car il détermine le niveau Dolby pendant la lecture.

Méthode	Sélecteur de bande (AUTO)	Mode	Signal d'entrée/bande d'essai	Point de réglage	Point de mesure	Valeur de réglage	Remarque
1	Normal	Marche	Lecture sur 315Hz/0dB avec bande d'essai STD-331B	VR504 (R) VR503 (L)	TP1 (R) TP2 (L)	–13.5dBv ± 2dB	

Réglage de la platine de lecture II

* Cette platine est pourvue d'un mécanisme d'auto-sélection-de bande.

1. Réglage d'azimut

* (Note) Enlever le tournevis avant de régler sur marche avant ou retour en arrière.

Méthode	Sélecteur de bande (AUTO)	Mode	Signal d'entrée/bande d'essai	Point de réglage	Point de mesure	Valeur de réglage	Remarque
1	Norm	Marche	Lecture sur 10kHz/–20dB avec bande d'essai STD-331B	Vis de réglage d'azimut (Fig. 12-3)	TP1 (R) TP2 (L)	Niveau maximum du signal de lecture	Bloquer ensuite la vis

2. Réglage du niveau de lecture

* Effectuer ce réglage avec précision car il détermine le niveau Dolby pendant la leclture.

Méthode	Sélecteur de bande (AUTO)	Mode	Signal d'entrée/bande d'essai	Point de réglage	Point de mesure	Valeur de réglage	Remarque
1	Normal	Marche	Lecture sur 315Hz/0dB avec bande d'essai STD-331B	VR502 (R) VR501 (L)	TP1 (R) TP2 (L)	–13.5 dBv ±0.5 dB	

3. Réglage des caractéristiques des fréquence d'enregistrement et de lecture

* Ce réglage est effectué pour permettre l'adjustement de la polarisation d'enregistrement. Par conséquent, attention à ne pas perturber le taux de distorsion avec une sous-polarisation.

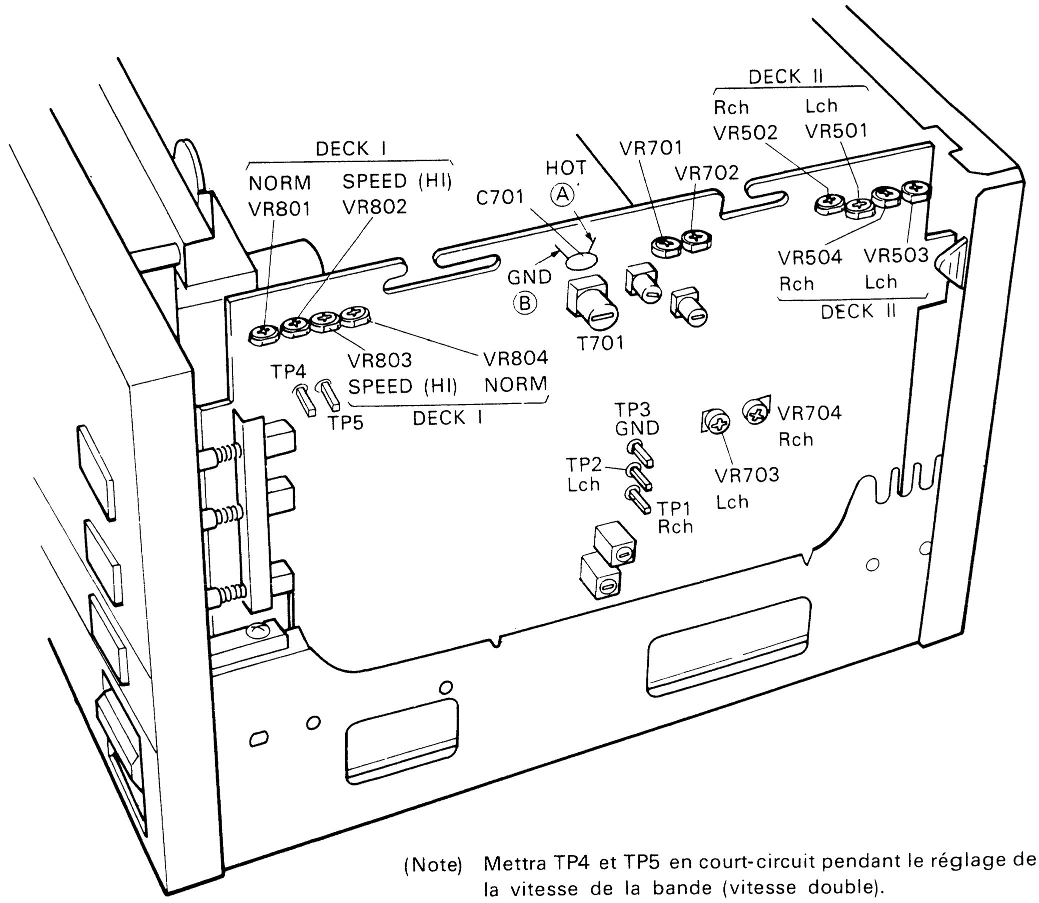
Méthode	Sélecteur de bande (AUTO)	Mode	Signal d'entrée/bande d'essai	Point de réglage	Point de mesure	Valeur de réglage	Remarque
1	Normal	REC	Mettre la bande d'essai STD-608A en place et régler le mode REC.	Fréquence de l'oscillateur de polarisation	Entre Ⓐ et Ⓑ sur la Fig. 12-2	Vérifier que la fréquence d'oscillation est de 105kHz ± 1kHz.	Si les cotes ne sont respectées, régler à l'aide de T701.
2	Normal	REC	Appliquer un signal de 315Hz à la borne de CD et brancher l'interrupteur de CD.	Niveau du signal d'entrée	TP1 (R) TP2 (L)	–33.5 dBv ±0.5 dB	
3	Normal	REC	Enregistrer et lire 315 Hz et 10kHz sur la bande d'essai STD-608.	VR702 (R) VR701 (L)	TP1 (R) TP2 (L)	Recommencer enregistrement et lecture et compenser pour amener le niveau d'enregistrement de 10kHz à 0 ± 0,5dB par rapport aux 315Hz.	

* Choisir la bande d'essai, régler le sélecteur de bande, brancher l'interrupteur de réduction de bruit Dolby et obtenir la zone de caractéristique de fréquence comme illustré en Fig. 12-5 et 12-8.

4. Réglage duniveau d'enregistrement

* Régler le correcteur et le volume en position moyenne et le volume de mixage du micro sur côté source.

Méthode	Sélecteur de bande (AUTO)	Mode	Signal d'entrée/bande d'essai	Point de réglage	Point de mesure	Valeur de réglage	Remarque
1	Normal	REC	Appliquer un signal de 315Hz à la borne de CD et brancher l'interrupteur de CD.	Niveau du signal d'entrée	TP1 (R) TP2 (L)	–33.5 dBv (±0.5 dB)	
2	Normal	REC/PLAY	Enregistrer et lire 315 Hz sur la bande d'essai STD-608A.	VR704 (R) VR703 (L)	TP1 (R) TP2 (L)	Recommencer enregistrement et lecture et compenser pour amener le niveau d'enregistrement de 315 Hz à –13.5 dBv (±0.5 dB).	
3	CrO_2	REC/PLAY	Enregistrer et lire 315 Hz sur la bande d'essai STD-620.	TP1 (R) TP2 (L)		Vérifier que le niveau de lecture à 315Hz passe à –13.5 dBv (±1.0 dB).	
4	METAL	REC/PLAY	Enregistrer et lire 315 Hz sur la bande d'essai STD-610.		TP1 (R) TP2 (L)	Vérifier que le niveau de lecture à 315Hz passe à –13.5 dBv (±1.0 dB).	


DECK II
Rch
Lch
VR502
VR501
DECK I
NORM
SPEED (HI)
VR801
VR802
HOT
VR701
VR702
C701
Ⓐ
GND
Ⓑ
T701
VR504
VR503
Rch
Lch
DECK II
TP4
VR803
VR804
SPEED (HI)
NORM
TP5
DECK I
TP3
GND
VR704
Rch
TP2
Lch
VR703
Lch
TP1
Rch

(Note) Mettra TP4 et TP5 en court-circuit pendant le réglage de la vitesse de la bande (vitesse double).

Fig. 12-3 Shéma de localisation des piéces de réglage

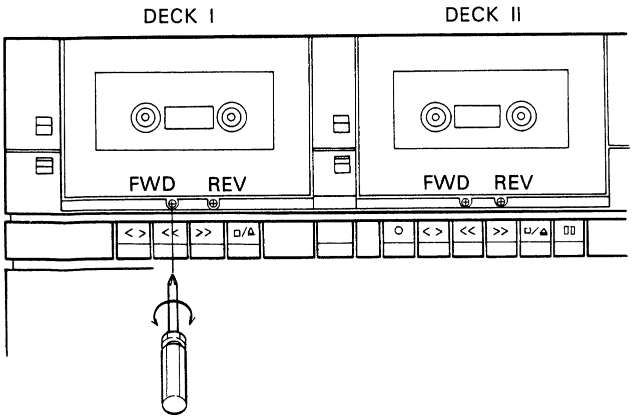

DECK I
DECK II
FWD
REV
FWD
REV

Fig. 12-4 Réglage dázimuth de la tête

Bande d'essai	STD-331B
Position du commutateur DOLBY NR	OFF

- Le canal de droite se corrige de −0,5 dB á 125 Hz, et de −1 dB à 63 dB afin de compenser l'effet de bordure.

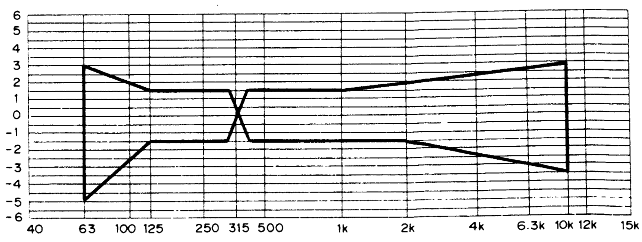


Fig. 12-5 Zone de tolérance de la réponse de fréquence de lecture

Bande d'essai	STD-608A	Bande d'essai	STD-608A
Commutateur DOLBY NR	OFF	Commutateur DOLBY NR	ON

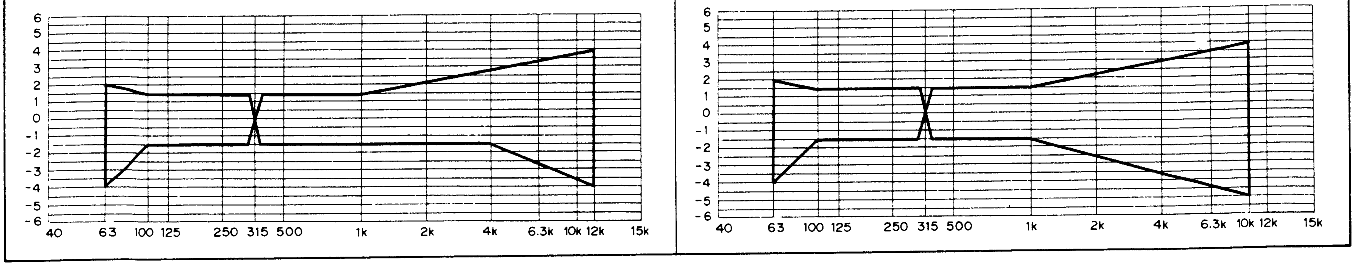


Fig. 12-6 Zone de tolérance de la réponse de fréquence d'enregistrement et de lecture (NORM)

Bande d'essai	STD-620	Bande d'essai	STD-620
Commutateur DOLBY NR	OFF	Commutateur DOLBY NR	ON

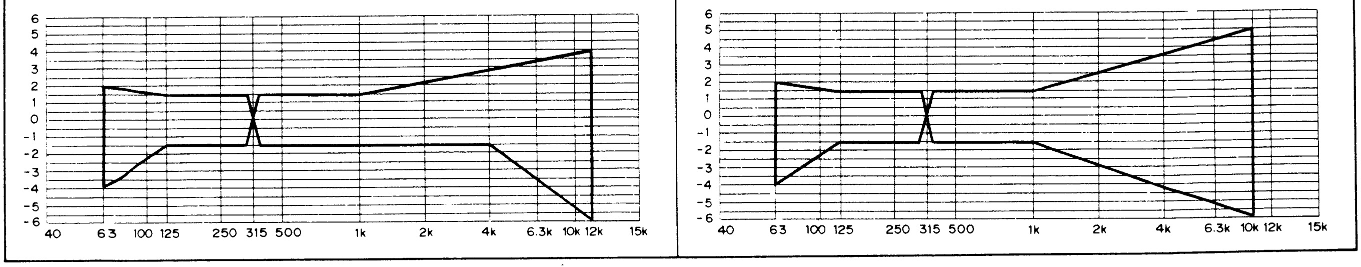


Fig. 12-7 Zone de tolérance de la réponse de fréquence d'enregistrement et de lecture (CrO2)

Bande d'essai	STD-610	Bande d'essai	STD-610
Commutateur DOLBY NR	OFF	Commutateur DOLBY NR	ON

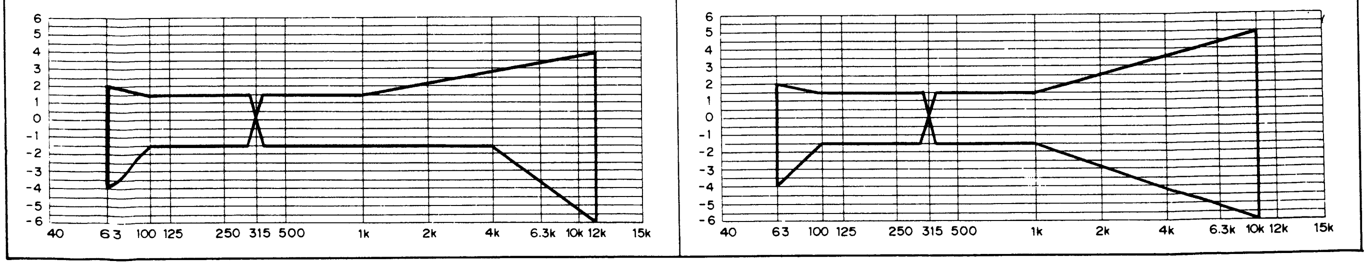
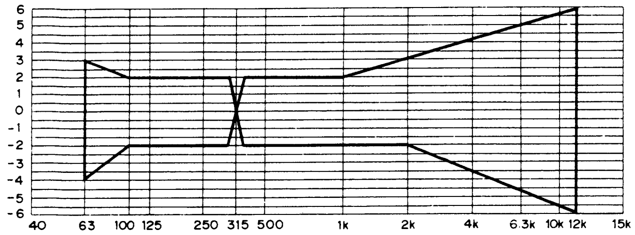
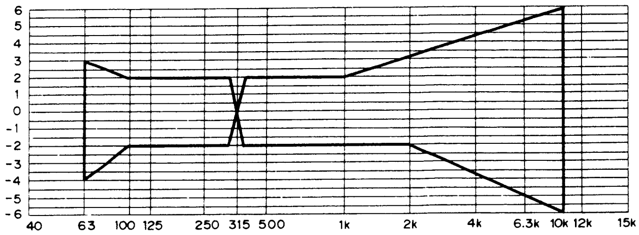


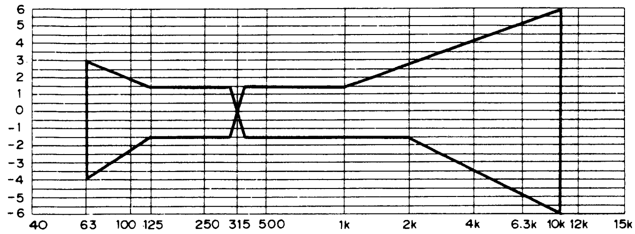
Fig. 12-8 Zone de tolérance de la réponse de fréquence d'enregistrement et de lecture (METAL)

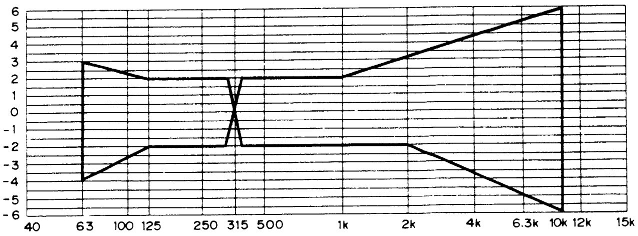
Bande d'essai	STD-608A	Bande d'essai	STD-608A (Copiage à vitesse rapide)
Commutateur DOLBY NR	OFF	Commutateur DOLBY NR	OFF



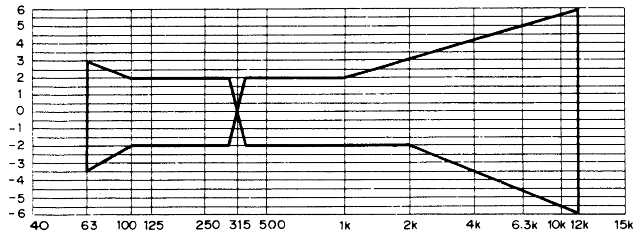


Bande d'essai	STD-620	Bande d'essai	STD-620 (Copiage à vitesse rapide)
Commutateur DOLBY NR	OFF	Commutateur DOLBY NR	OFF





Bande d'essai	STD-610	Bande d'essai	STD-610 (Copiage à vitesse rapide)
Commutateur DOLBY NR	OFF	Commutateur DOLBY NR	OFF



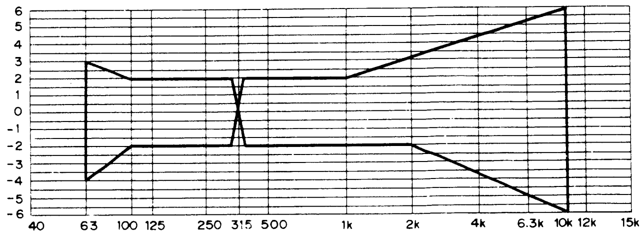


Fig. 12-9 Réponse de fréquence d'enregistrement et de lecture du mode de copiage (à des fins de référence)

12. AJUSTE

Ajuste de velocidad de la cinta

1. Conecte el frecuencímetro a la terminal TP1 (Dolby TP: canal derecho) en el montaje de la cinta.
2. Conecte el interruptor de la cinta.
3. Monte la cinta de prueba STD-301 en el deck I.
4. Efectue un cortocircuito entre las terminales TP4 y TP5 en el montaje de la cinta y ponga el deck I en el modo de reproducción. (STD-301 se reproduce en doble velocidad.)
5. Ajuste con el VR803 de modo que la frecuencia de señal de reproduccxión del deck I llegue a ser 6020Hz ±10 Hz.
6. Libere el cortocircuito entre las terminales TP4 y TP5.
7. Ponga el deck I en el modo de reproducción y ajuste con el VR804 de modo que la frecuencia de señal de reproducción llegue a ser 3010 Hz ±5 Hz. (Nota 1: Asegúrese de no girar VR803 mientras ejecut el ajuste de velocidad normal.)
8. En este momento, asegúrese de confirmar de que la ululación y la fluctuación estén ambas dentro de 0,3% en las velocidades doble y normal.
9. Monte la cinta de prueba STD-301 en el deck II .
10. Efectue un cortocircuito entre las terminales TP4 y TP5 en el montaje de la cinta y ponga el deck II en el modo de reproducción. (STD-301 se reproduce en doble velocidad.)
11. Ajuste el VR802 de modo que la frecuencia de señal de reproducción del deck II llegue a ser ±20 Hz contra ésa del deck I.
12. Libere el cortocircuito entre las terminales TP4 y TP5.
13. Ponga el deck II en el modo de reproducción y ajuste con el VR801 de modo que la frecuencia de señal de reproducción del deck II llegue a ser ±10 Hz contra ésa del deck I.
14. En este momento, asegúrese de confirmar de que la ululación y la fluctuación estén ambas dentro de 0,3% en las velocidades doble y normal.

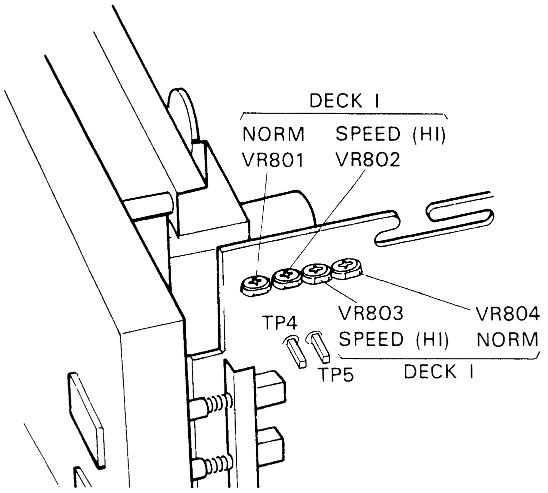


Fig. 12-1 Punto de ajuste

Ajuste del sistema eléctrico

Antes del ajuste del sistema eléctrico, asegúrese de confirmar los ítems siguientes:

1. El ajuste mecánico deberá estár terminado.
2. Limpie y desmagnetize la cabeza con un borrador de cabezas.
3. El nivel durante la medición se determina en 0 dBv = 1V.
4. Se deberá usar la cinta especificada para el ajuste. Ya que la cinta de prueba tiene lado A y lado B, use el lado A con marbete
   STD-331B: Para ajuste del sistema de reproducción.
   STD-608A: Cinta normal en blanco
   STD-620: Comta CrO_2 en blanco
   STD-610: Cinta de metal en blanco
5. Prepare los siguientes instrumentos de medición. Un milivolltímetro de CA, un oscilador de baja frecuencia, un atenuador y un osciloscopio.
6. Para el ajuste, haga funcionar ambos canales derecho e izquierdo a menos que se especifique de otra forma.
7. Desconecte el interruptor de reducción de ruido Dolby a menos que se especifique de otra forma.
8. Antes del ajuste, asegúrese de ejecutar el envejecimiento de la unidad por varios minutos. Especialmente antes de introducir el ajuste de las características de la frecuencia de la reproducción y la grabación, el envejecimiento deberá ser ejecutado en el modo de REC/PLAY de 3 a 5 minutos.
9. El ajuste deberá ser ejecutado de acuerdo con el orden del ajuste. Si el orden no se mantiene, puede causar la falla del ajuste completo que induce a un funcionamiento inferior de la unidad.

Deck I

1. Ajuste del acimut de la cabeza.
2. Ajuste del nivel de reproducción.

Deck II

1. Ajuste del acimut de la cabeza.
2. Ajuste del nivel de repoducción.
3. Ajuste de las características de la frecuencia de reproducción y grabación.
4. Ajuste del nivel de grabación.

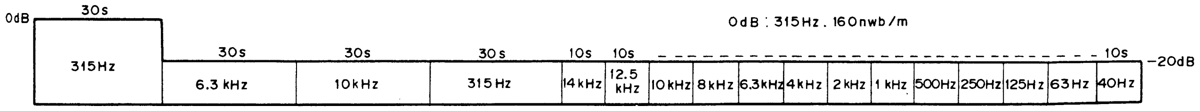


Fig. 12-2 Cinta de prueba STD-331B

Ajuste del Deck I

* Este deck está provisto con un mecanismo autoselector de cinta.

1. Ajuste del acimut de la cabeza

* (Nota) No seleccione el avance hacia delante o hacia atrás con el destornillador mantenido dentro.

Procedimiento	Selector de cinta (AUTO)	Modo	Señal de entrada/ cinta de prueba	Punta de ajuste	Punta de medición	Valor de ajuste	Observación
1	Normal	Reproducción	Reproducción de 10 kHz/ – 20 dB en la cinta de prueba STD-331B	Tornillo de ajuste del acimut de la cabeza (Fig. 12-3)	TP1 (R) TP2 (L)	Nivel máximo de señal de reproducción	Después de terminar, trabe el tornillo

2. Ajuste del nivel de reproducción

· Ejecute este ajuste con exactitud, ya que el anterior es la fijación del nivel Dolby durante la reproducción.

Procedimiento	Selector de cinta (AUTO)	Modo	Señal de entrada/ cinta de prueba	Punta de ajuste	Punta de medición	Valor de ajuste	Observación
1	Normal	Reprodúcción	Reproducción de 315Hz/ 0dB en la cinta de prueba STD-331B	VR504 (R) VR503 (L)	TP1 (R) TP2 (L)	– 13.5dBv ± 2dB	

Ajuste del Deck II

* Este deck está provisto con un mecanismo autoselector de cinta.

1. Ajuste del acimut de la cabeza

* (Nota) No seleccione el avance hacia delante o hacia atrás con el destornillador mantenido dentro.

Procedimiento	Selector de cinta (AUTO)	Modo	Señal de entrada/ cinta de prueba	Punta de ajuste	Punta de medición	Valor de ajuste	Observación
1	Normal	Reproducción	Reproducción de 10 kHz/ – 20 dB en la cinta de prueba STD-331B	Tornillo de ajuste del acimut de la cabeza (Fig. 12-3)	TP1 (R) TP2 (L)	Nivel máximo de señal de reproducción	Después de terminar, trabe el tornillo

2. Ajuste del nivel de reproducción

* Ejecute este ajuste con exactitud, ya que el anterior es la fijación del nivel Dolby durante la reproducción.

Procedimiento	Selector de cinta (AUTO)	Modo	Señal de entrada/ cinta de prueba	Punta de ajuste	Punta de medición	Valor de ajuste	Observación
1	Normal	Reproducción	Reproducción de 315 Hz/ 0 dB en la cinta de prueba STD-331B	VR502 (R) VR501 (L)	TP1 (R) TP2 (L)	−13.5 dBv ±0.5 dB	

3. Ajuste de las características de la frequencia de reproducción y grabación.

* Este ajuste se efectua para ajustar la polarización de grabación. Por eso, se deberá tener cuidado de no empeorar la relación de distorsión debido a una subpolarización.

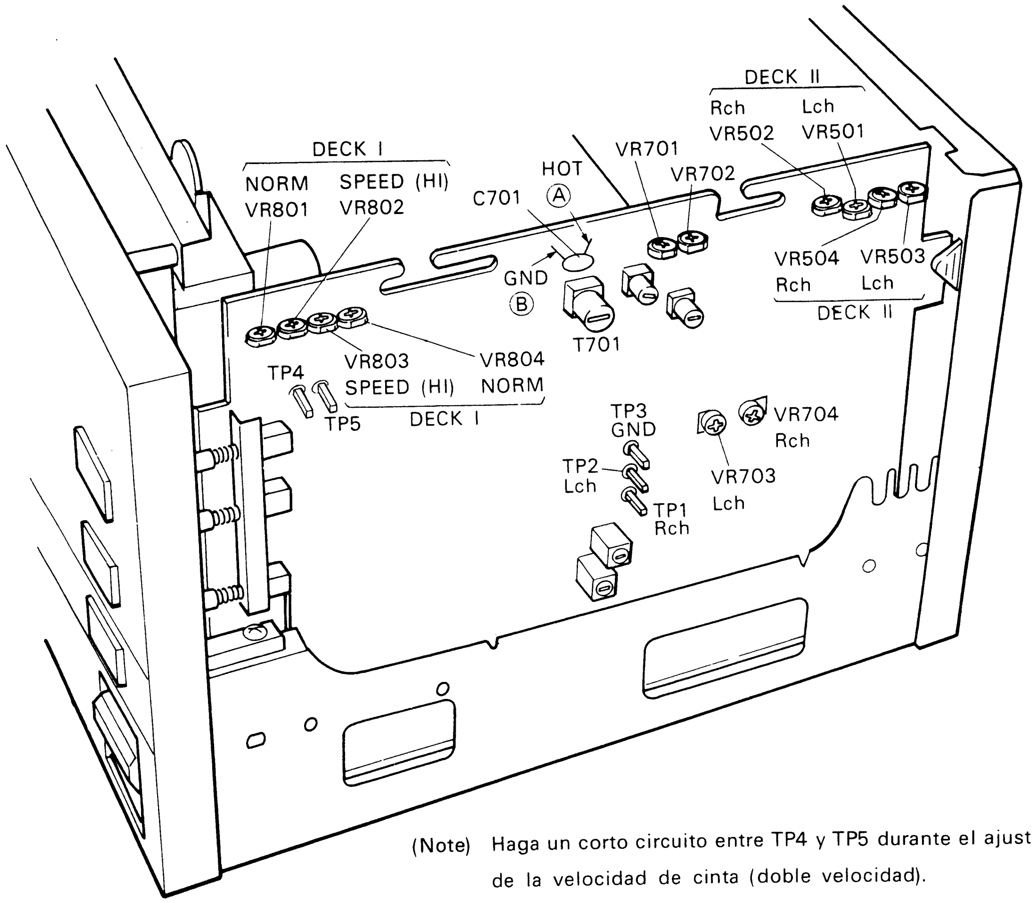
Procedimiento	Selector de cinta (AUTO)	Modo	Señal de entrada/ cinta de prueba	Punta de ajuste	Punta de medición	Valor de ajuste	Observación
1	Normal	REC	Monte la cinta de prueba STD-608A y ponga el modo de REC.	Frecuencia del oscilator de polarización	Entre Ⓐ y Ⓑ en la Fig. 12-2	Confirme que la frecuencia de oscilación sea 105 kHz ± 1 kHz.	Cuando no está dentro del estándar, póngala en el estándar ajustando T701.
2	Normal	REC	Apique la señal de 315 Hz a la terminal de CD y conecte el interruptor de CD.	Nivel de señal de entrada	TP1 (R) TP2 (L)	−33.5 dBv ±0.5 dB	
3	Normal	REC/PLAY	Grabe y reproduzca 315 Hz y 10 kHz en la cinta de prueba STD-608.	VR702 (R) VR701 (L)	TP1 (R) TP2 (L)	Repita la grabación y la reproducción, y compense de modo que el nivel de reproducción de 10 kHz contra 315 Hz llegue a ser 0 ±0,5 dB.	

* Seleccione la cinta de prueba, el selector de cinta y el interruptor de reducción de ruido y satisfaga la zona de característica de la frecuencia como se muestra en las Figuras 12-5 y 12-8.

4. Ajuste el nivel de grabación

* Fije el ecualizador gráfico y el volumen de equilibrio al centro y el volumen de mezcla de micro al lado de la fuente.

Procedimiento	Selector de cinta (AUTO)	Modo	Señal de entrada/ cinta de prueba	Punta de ajuste	Punta de medición	Valor de ajuste	Observación
1	Normal	REC	Aplique la señal de 315 Hz a la terminal de CD y conecte el interruptor de CD.	Nivel de señal de entrada	TP1 (R) TP2 (L)	−33.5 dBv (±0.5 dB)	
2	Normal	REC/PLAY	Grabe y reproduzca 315 Hz en la cinta de prueba STD-608A.	VR704 (R) VR703 (L)	TP1 (R) TP2 (L)	Repita la grabación y la reproducción, y compense de modo que el nivel de reproducción de 315 Hz lleque a ser −13.5 dBv (±0.5 dB).	
3	CrO2	REC/PLAY	Grabe y reproduzca 315 Hz en la cinta de prueba STD-620.		TP1 (R) TP2 (L)	Confirme que el nivel de reproducción de 315 Hz llegue a ser −13.5 dBv (±1.0 dB).	
4	METAL	REC/PLAY	Grabe y reproduzca 315 Hz en la cinta de prueba STD-610.		TP1 (R) TP2 (L)	Confirme que el nivel de reproducción de 315 Hz llegue a ser −13.5 dBv (±1.0 dB).	


DECK II
Rch
Lch
VR502
VR501
VR701
VR702
HOT
Ⓐ
C701
DECK I
NORM
SPEED (HI)
VR801
VR802
GND
Ⓑ
T701
VR504
VR503
Rch
Lch
DECK II
TP4
VR803
VR804
SPEED (HI)
NORM
TP5
DECK I
TP3
GND
VR704
Rch
TP2
Lch
VR703
Lch
TP1
Rch

(Note) Haga un corto circuito entre TP4 y TP5 durante el ajuste de la velocidad de cinta (doble velocidad).

Fig. 12-3 Diagrama de disposición de las partes de ajuste

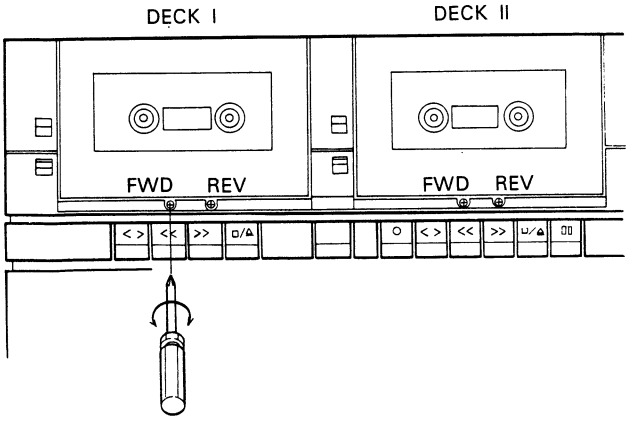

DECK I
DECK II
FWD
REV
FWD
REV

Fig. 12-4 Ajuste del acimut de la cabeza

Cinta de prueba	STD-331B
Posición del interruptor DOLBY NR	OFF

- El canal derecho se corrige en −0,5 dB a 125 Hz y −1 dB a 63 Hz para compensar el efecto de los bordes.

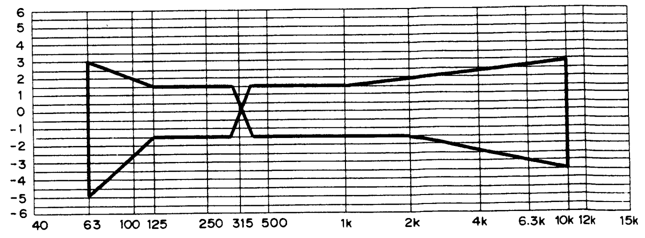


Fig. 12-5 Zona de tolerancia de respuesta de frecuencia de reproducción

Cinta de prueba	STD-608A	Cinta de prueba	STD-608A
Interruptor DOLBY NR	OFF	Interruptor DOLBY NR	ON

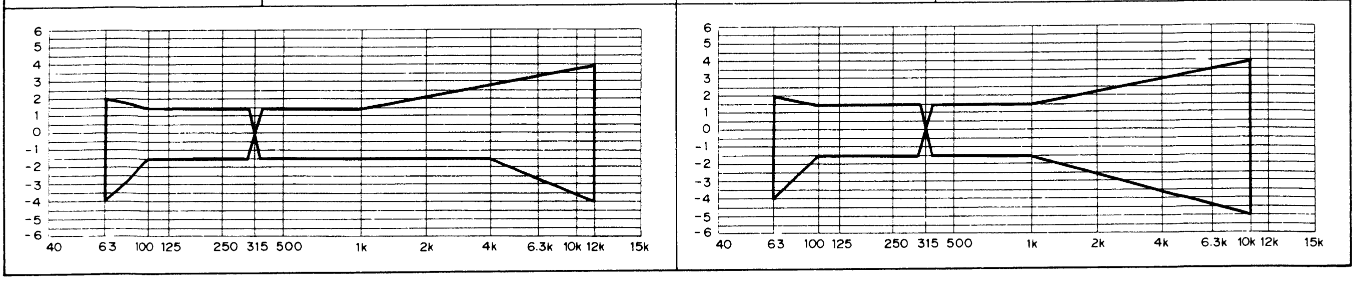


Fig. 12-6 Zona de tolerancia de copia y respuesta de frecuencia de reproducción (NORM)

Cinta de prueba	STD-620	Cinta de prueba	STD-620
Interruptor DOLBY NR	OFF	Interruptor DOLBY NR	ON

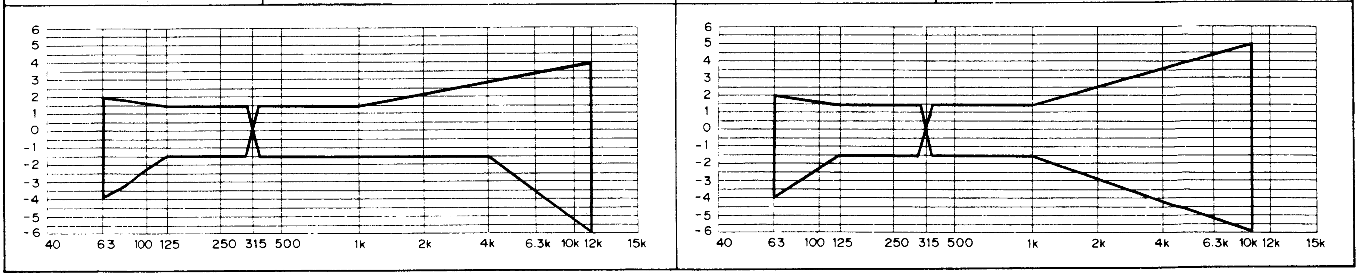


Fig. 12-7 Zona de tolerancia de copia y respuesta de frecuencia de reproducción (CrO2)

Cinta de prueba	STD-610	Cinta de prueba	STD-610
Interruptor DOLBY NR	OFF	Interruptor DOLBY NR	ON

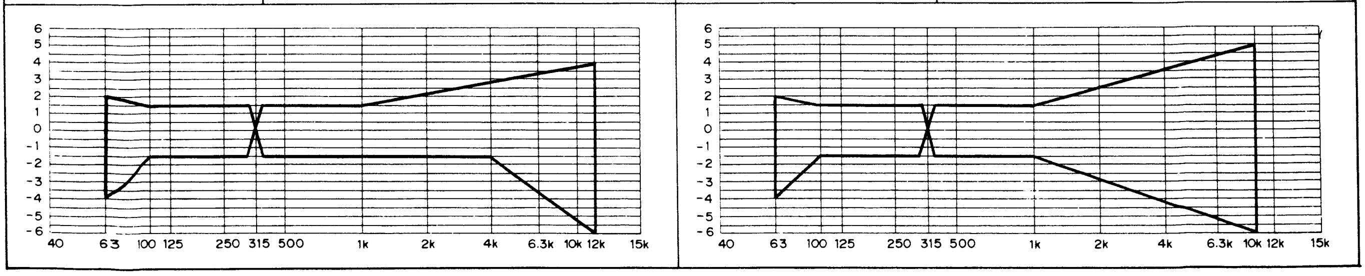
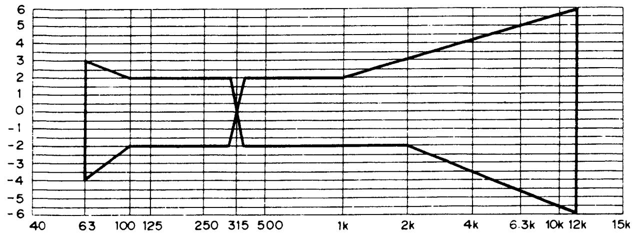
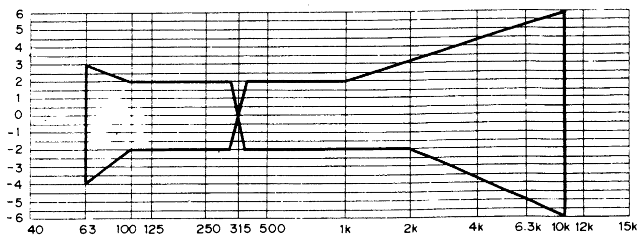


Fig. 12-8 Zona de tolerancia de copia y respuesta de frecuencia de reproducción (METAL)

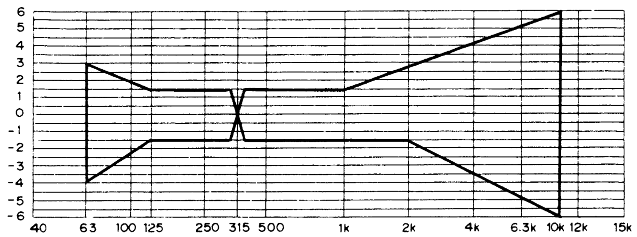
Cinta de prueba	STD-608A
Interruptor DOLBY NR	OFF



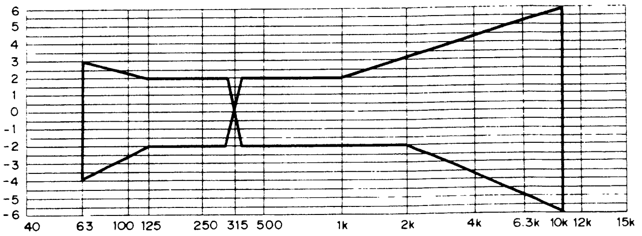
Cinta de prueba	STD-608A (Copia de alta velocidad)
Interruptor DOLBY NR	OFF



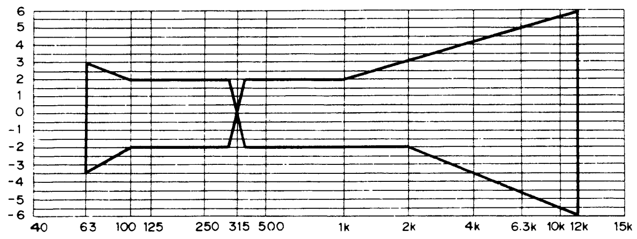
Cinta de prueba	STD-620
Interruptor DOLBY NR	OFF



Cinta de prueba	STD-620 (Copia de alta velocidad)
Interruptor DOLBY NR	OFF



Cinta de prueba	STD-610
Interruptor DOLBY NR	OFF



Cinta de prueba	STD-610 (Copia de alta velocidad)
Interruptor DOLBY NR	OFF

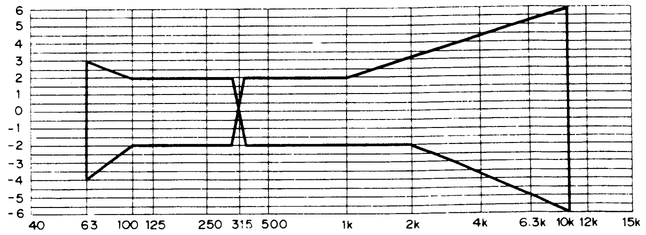


Fig. 12-9 Grabación de modo de copia y respuesta de frecuencia de reproducción (para referencia propuesta)

13. DISASSEMBLY

13-1. REMOVAL OF CASSETTE MECHANICAL UNIT

1. Remove 6 screws ❶.
2. Remove the bonnet case.
3. Remove 2 screws ❷.
4. Press the claw of the chassis bottom and remove the front panel (to which the cassette mechanical unit is attached) and pull out toward you.
5. Remove 4 tape assembly connectors (J9, J10, J11 and J12) and 2 parallel jumpers (J901 and J902) from the wiring connectors which are extended from the cassette mechanical unit.

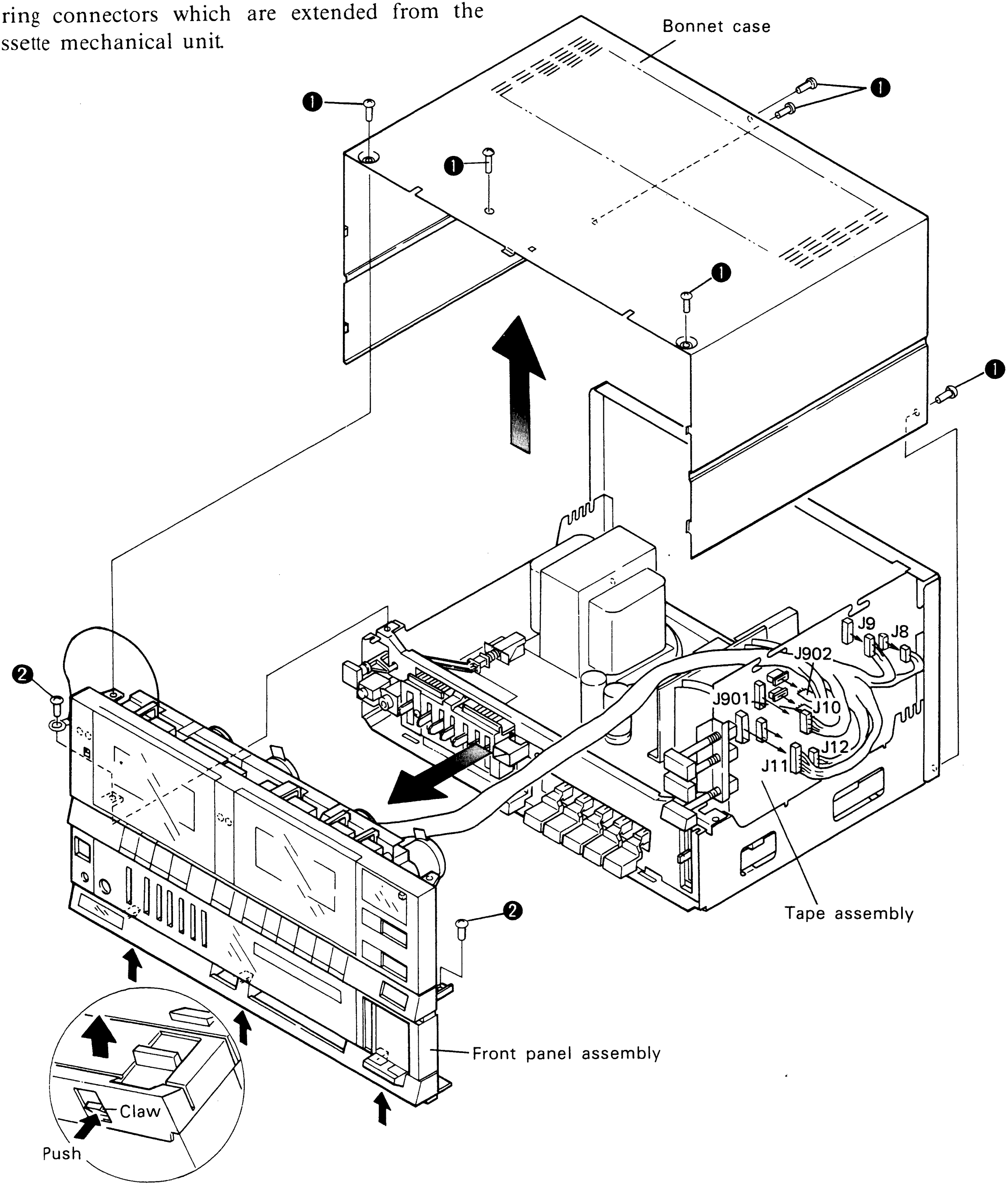

Bonnet case
❶
❶
❶
❶
❶
❷
J9
J8
J902
J901
J10
J12
J11
Tape assembly
❷
Front panel assembly
Claw
Push

Fig. 13-1 Removal of the front panel assembly

6. Since J8 has been soldered from the rear side, remove the shield wire (the head shield wire of the mechanism I) by using a soldering iron and cut the binders B11 and B12 with a nipper, and then remove the front panel (to which the cassette mechanical unit is attached) from the main body.
7. Remove the counter belt from the counter and apply it to the cassette mechanical unit.
8. Remove 6 screws ❸ and remove the cassette mechanical unit from the front panel.

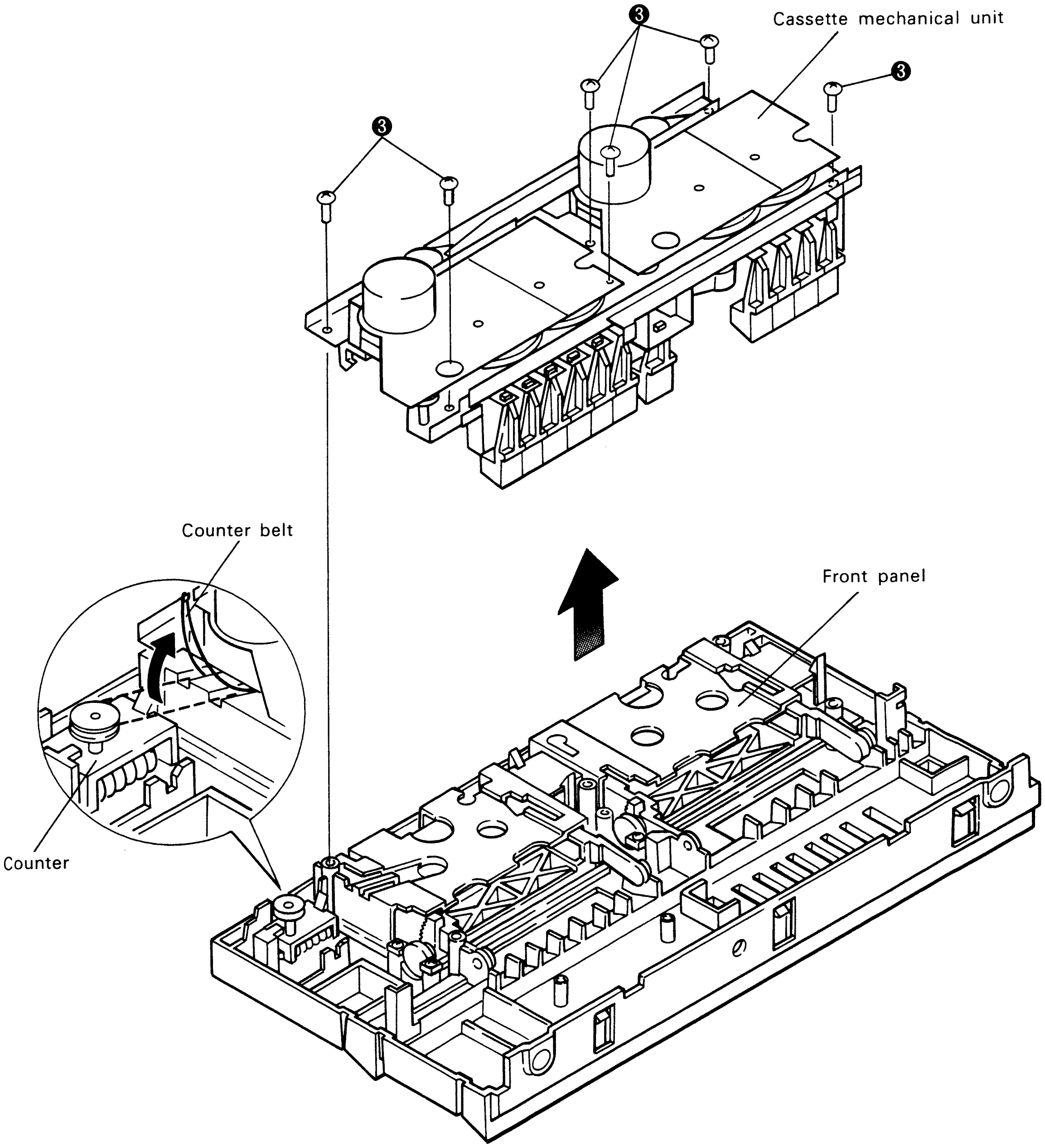

❸
Cassette mechanical unit
❸
❸
Counter belt
Front panel
Counter

Fig. 13-2 Appliance of belt

13-2. REMOVAL OF BELT

1. Remove the cassette mechanical unit from the main body.
   (See Removal of mechanical unit)
2. Cut the binder which bundles the head lead wires.
3. Remove 4 screws ❶ and remove the FW receiving plate from the mechanical chassis.
4. Remove the belt.

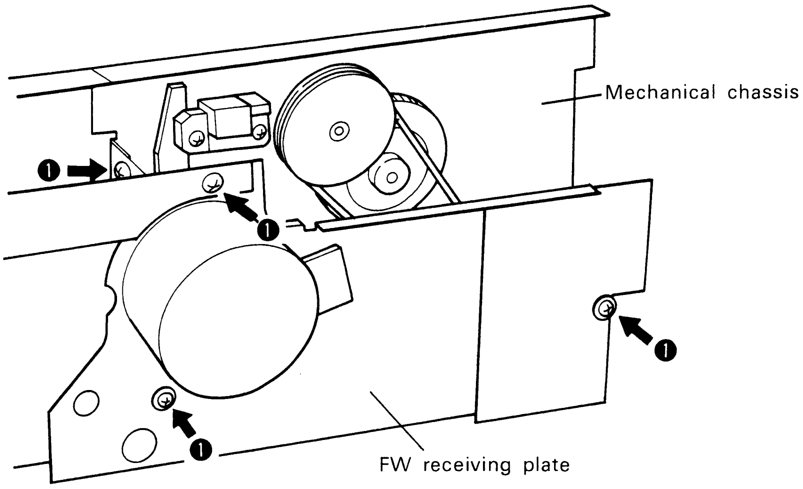

Mechanical chassis
❶
❶
❶
❶
FW receiving plate

Fig. 13-3 Removal of belt

13-3. APPLIANCE OF BELT

1. Apply the flat belt as shown in the broken lines through Ⓐ section (belt temporary holding shaft) in the Fig.13-4.
2. Apply the square belt as shown Ⓒ in Fig.13-4.
3. Install the FW receiving plate to the mechanical chassis and transfer the flat belt, which has been held temporary at Ⓐ section, to the motor pulley.

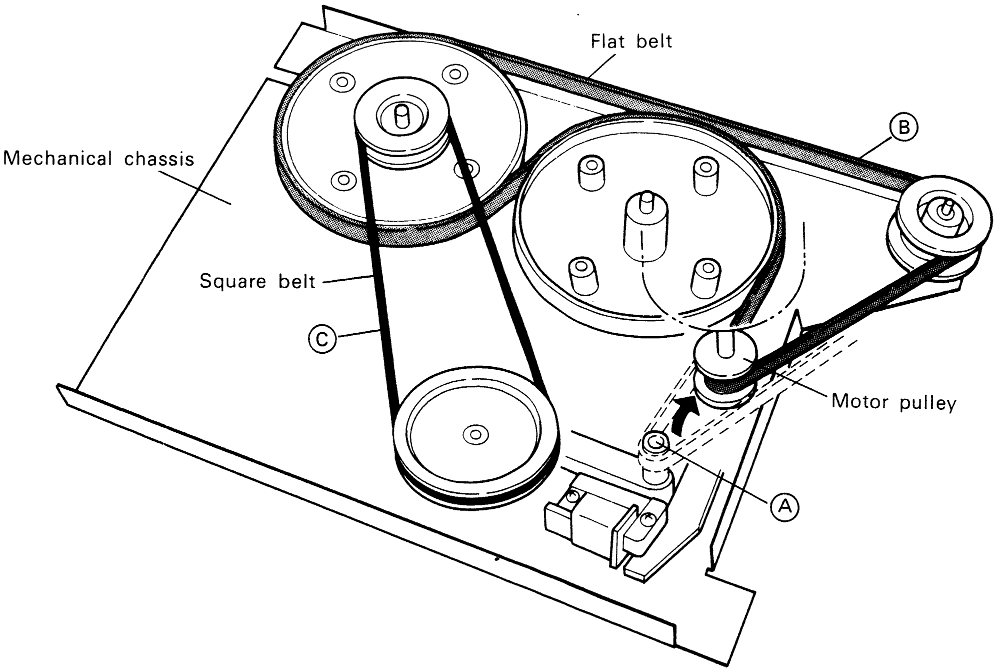

Flat belt
Ⓑ
Mechanical chassis
Square belt
Ⓒ
Motor pulley
Ⓐ

Fig. 13-4 Appliance of belt

13-4. REMOVAL OF MOTOR

1. Remove the mechanical unit from the main body. (See Removal of mechanical unit)
2. Remove the lead wires of the motor from motor. (See Fig. 13-5)
3. Remove the FW receiving plate. (See Removal of belt)
4. Remove 2 screws ❶ and remove the motor. (See Fig. 13-6)

Note 1: Care should be taken to the motor installation direction and attaching position of the motor lead wires when the motor is replaced.

Note 2: Perform the tape speed adjustment (See Fig. 13-6) when the motor is replaced.

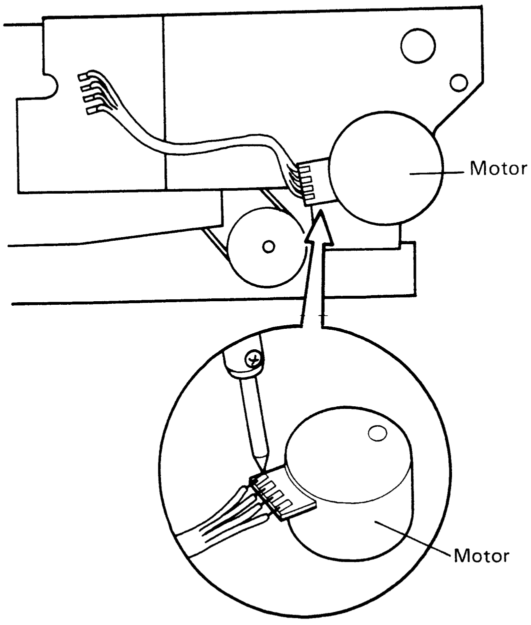


Fig. 13-5 Removal of motor lead wires

13-5. REPLACEMENT OF HEAD

1. Remove the mechanical unit from the main body. (See Removal of mechanical unit)
2. Remove 2 screws ❶ for head installation and pull out the head assembly. (See Fig. 13-7)
3. Remove the lead wires from the head section board by using a soldering iron.
4. Solder the new lead wires to the new head. (See Fig. 13-7)

Note 1: At this point, be sure to make the soldering of the lead wires to their respective positions without fail.

Note 2: Be sure to perform the mechanical adjustment and electrical adjustment when the head is replaced.

Note 3: When replacing the head, be sure lock the screws which have been used for the head installation.

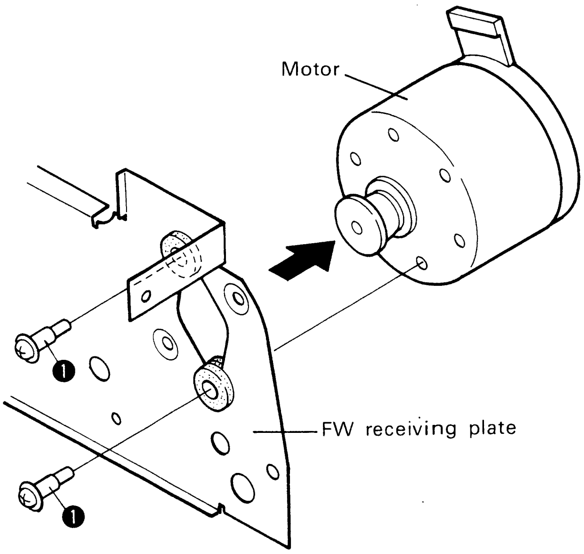
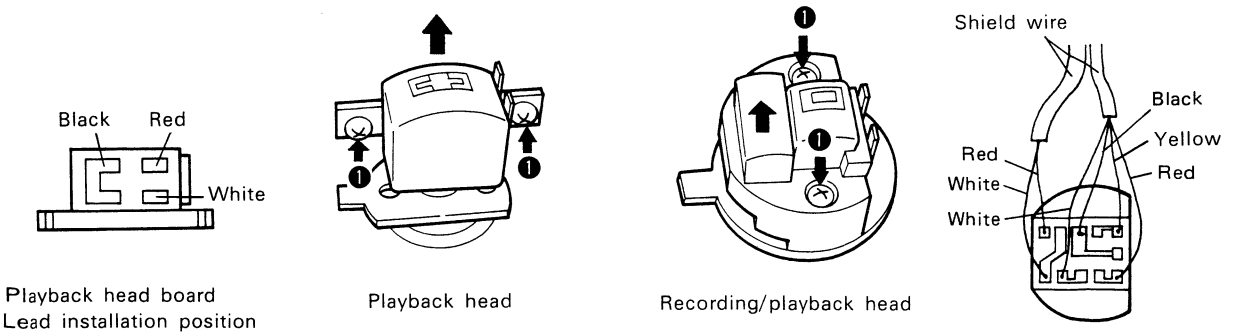


Fig. 13-6 Removal of motor



Playback head board
Lead installation position

Playback head

Recording/playback head

Recording/playback head board
Lead installation position

Fig. 13-7 Removal of head assembly